THE ARCHITECT & BUILDING NEWS

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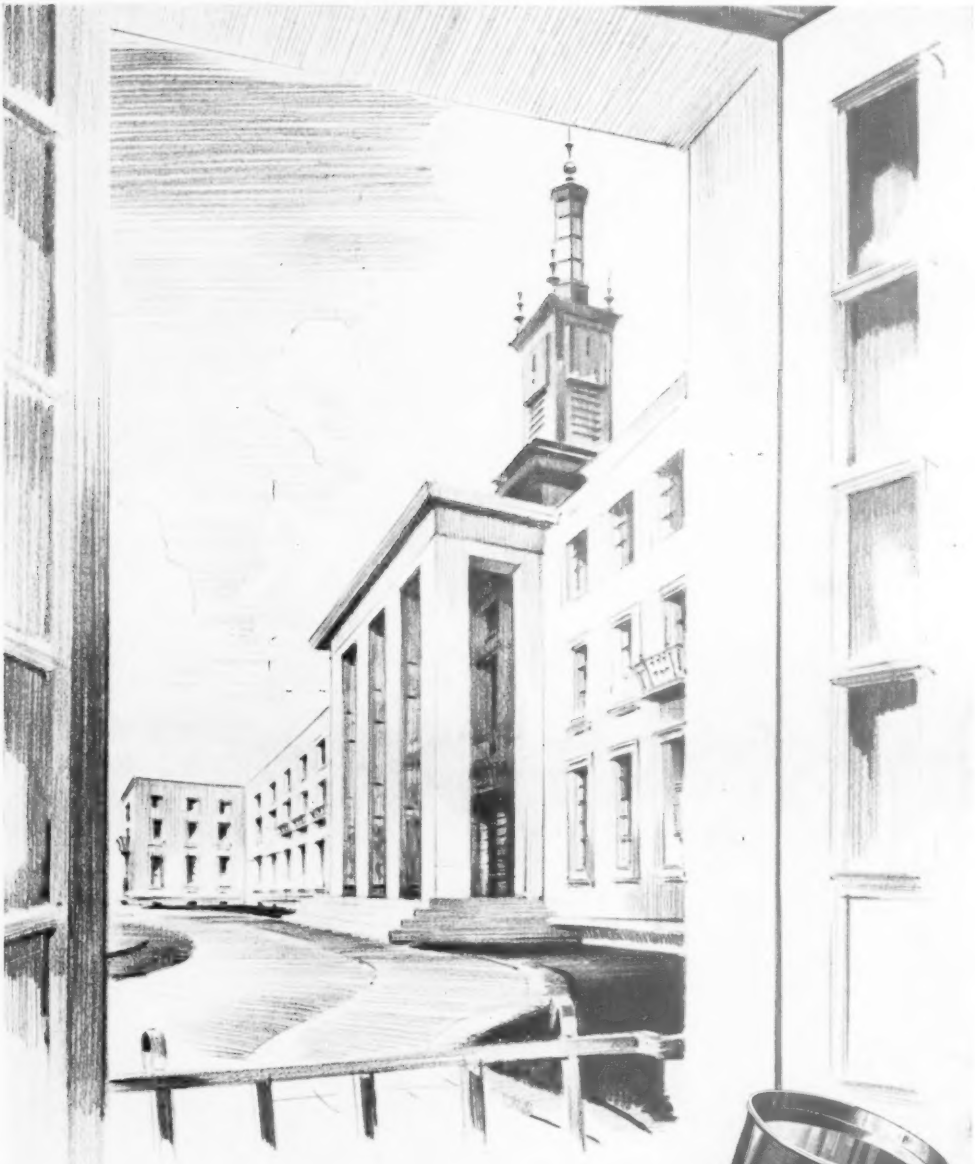
MAY 18, 1951 • VOL. 199 • NO. 4300 • ONE SHILLING WEEKLY



In character, manners, style, in all things, the supreme excellence is simplicity . . . in interior decoration this is most readily achieved by the use of Walpamur Quality Paints

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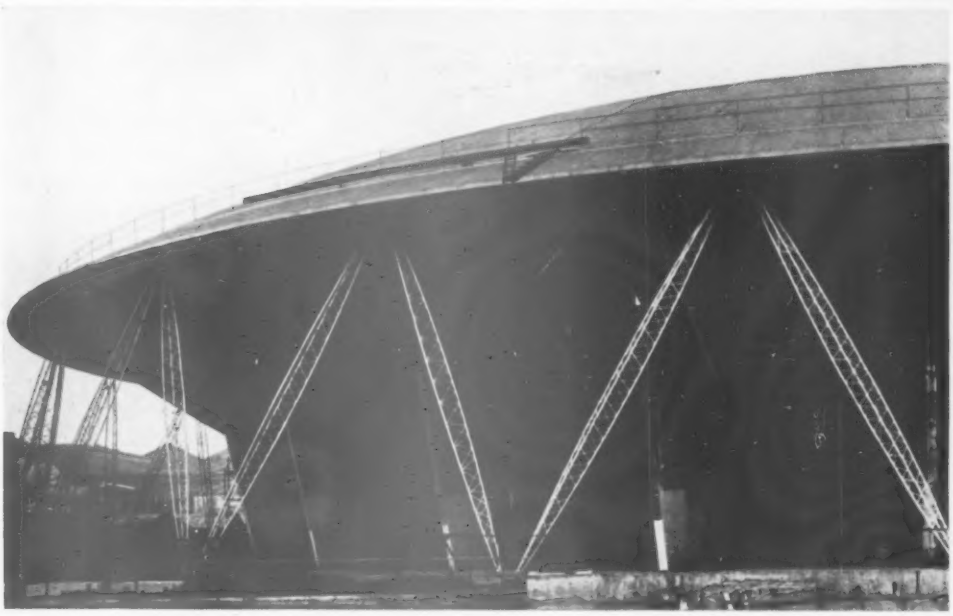
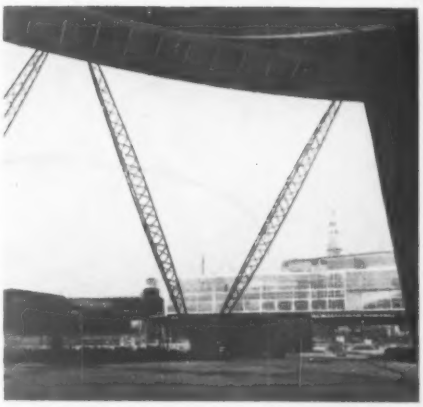
'TUBEWRIGHTS' WELDED STEELWORK



Dome of Discovery

SUPPORTED ENTIRELY BY 48 TUBULAR MILD-STEEL STRUTS EACH 48 FEET LONG



TOTAL DESIGNED LOAD	LOAD CARRIED BY EACH STRUT	WEIGHT OF EACH STRUT	LOAD/WEIGHT RATIO
1500 tons	31 tons	0·6 tons	50:1

Architect: Ralph Tubbs, Esq. A.R.I.B.A. Consulting Engineers: Freeman Fox & Partners.
General Contractors: Richard Costain Ltd. Sub-Contractors: Horseley Bridge and Thos. Piggott Ltd.

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Phorpres bricks are available in a very wide range of standard specials. Particulars of these may be obtained from the Technical and Research Department, who are at your service for information or advice on brickwork problems.

the PHORPRES keyed brick

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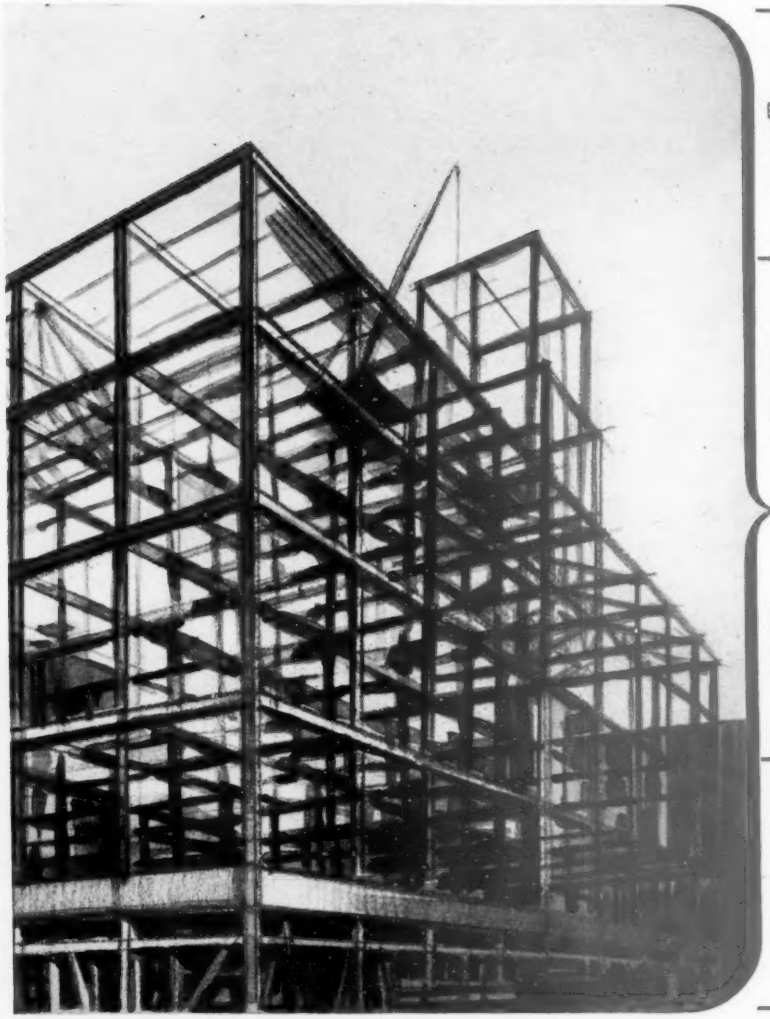

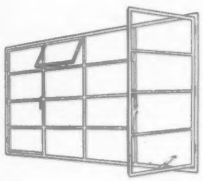

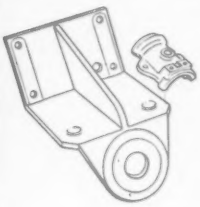

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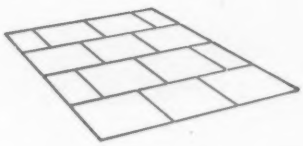

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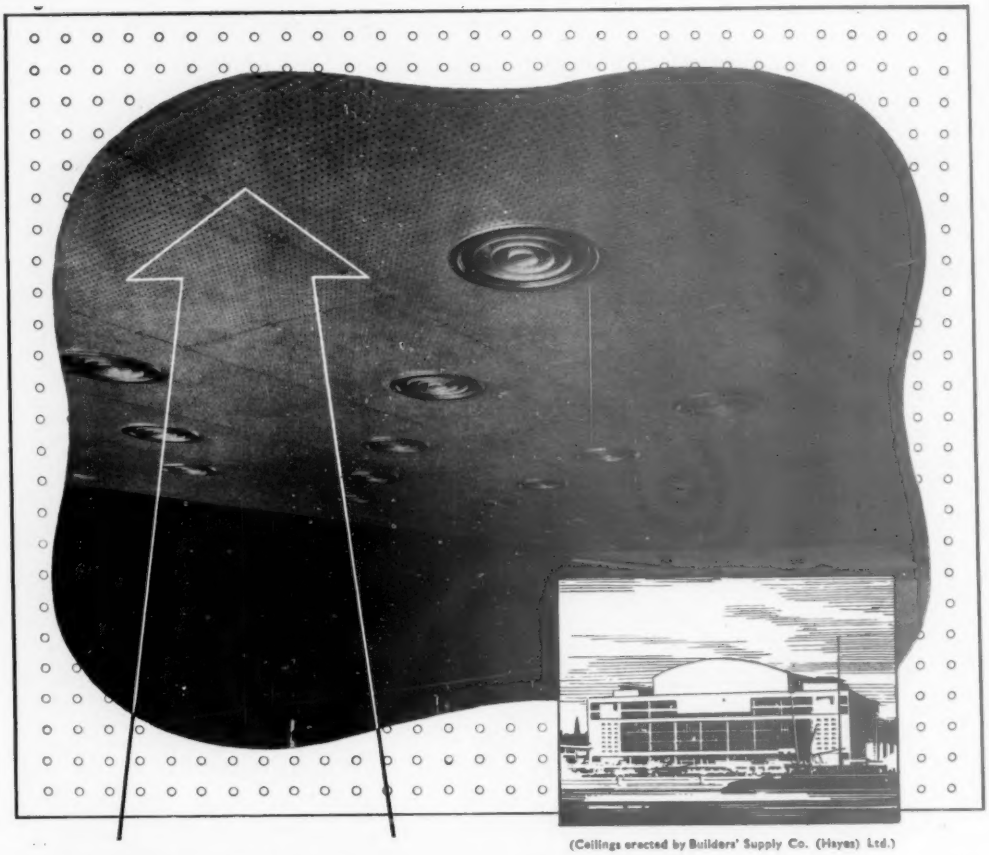

(Ceilings erected by Builders' Supply Co. (Hayes) Ltd.)

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Consulting Engineers: SCOTT AND WILSON, M.M.Inst.C.E.
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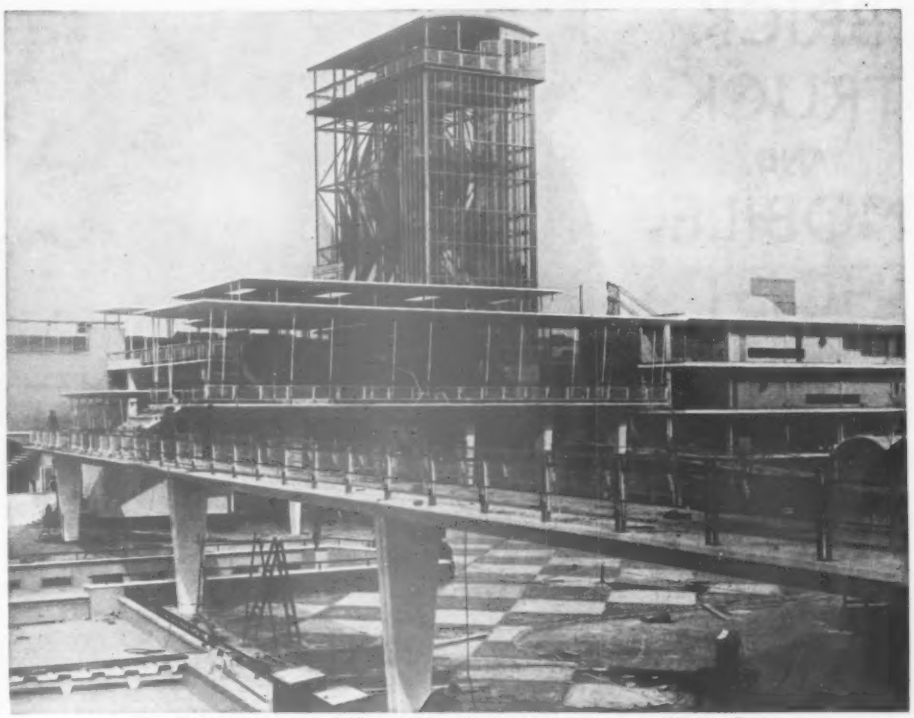

Post-Tensioned Concrete Bridge. Waterloo Bridge Main Entrance and Viewing Tower.

Contractors to the Festival of Britain

Work comprises:

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RIVERSIDE RESTAURANT
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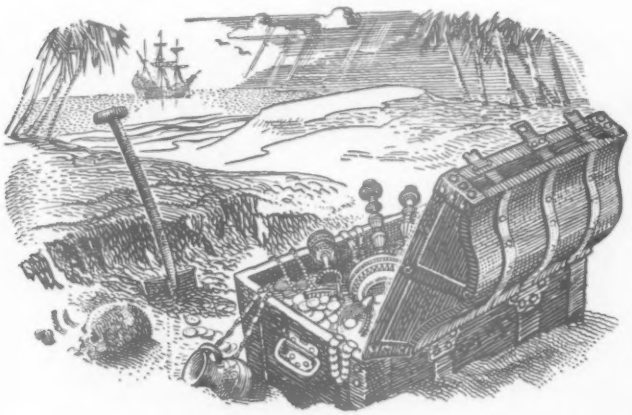
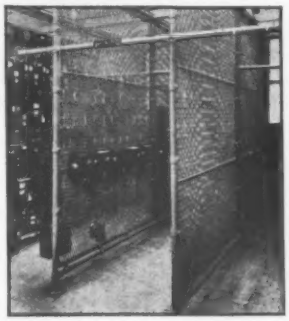


Below : "Expamet" Expanded Metal Meter Testing Frames at Paisley for South West of Scotland Electricity Board, Clyde Sub-Area.



Below : "BB" Expanded Metal Lathing used for Acoustic Proscenium Hood at Civic Halls, Wolverhampton. Architects : Messrs. E. D. Lyons & L. Israel, A/A.R.I.B.A., London.

It was Shakespeare who wrote : "*the purest treasure mortal times afford, Is spotless reputation.*" *To others, treasure merely conjures up a picture of gold and jewels found on desert islands. But, in fact, treasure is anything of real service to mankind. Consider therefore the innumerable uses of Expanded Metal which impinge upon the daily round of work and leisure, almost from the cradle to the grave.*

• • •

Seen or unseen it does its job. It is hidden in the structure of a building as reinforcement for concrete or brickwork ; or as a background and "key" for the plaster which has made possible the beautiful and intricate suspended ceilings and the strong, fire and impact resisting plaster partitions. Among the countless visible uses are : guards for machinery, windows, trees, heaters and radiators; surrounds to lift shafts; ventilators; letter trays and waste paper baskets ; openwork flooring and partitions ; pedestrian barrier guards ; decorative grilles for radio and loudspeaker systems.

• • •

In schools, homes, public buildings, shops, factories, offices, cinemas and theatres ; roads, railways, waterways, and the vehicles and ships which travel on them ; even in radio and television there is a constant reminder of the ever-increasing value of Expanded Metal Products for a hundred and one uses.

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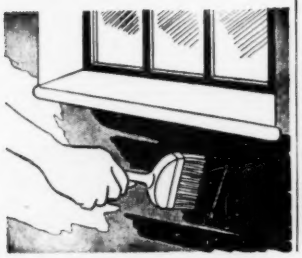
87

The waterproof skin ***you brush on***

to prevent or cure damp walls . . .

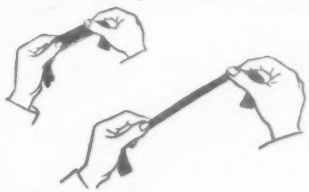


to seal concrete roofs . . .

to waterproof concrete sub-floors

SYNTHAPRUFE

forms an elastic, adhesive, waterproof coat containing rubber



Synthaprufe is elastic (as shown by test strip) and therefore an ideal waterproof jointing

SYNTHAPRUFE is a ready-to-use waterproofing compound which is applied *cold* by brush. Containing rubber, it is strongly adhesive, and sets rapidly to form a flexible, elastic film which is impervious to moisture.

It can be applied over concrete, plaster, brick, metal, or timber surfaces, and is satisfactorily used both in new construction and on existing buildings.

It makes an ideal waterproof "sandwich" layer in concrete sub-floors or roofs; and when used under granolithic or Terrazzo surfaces, it reduces the risk of cracking because its elasticity enables it to absorb slight movements in the base.

Synthaprufe is highly effective as a vertical damp-course on either external or internal surfaces, and is most valuable for treating damp in existing walls. Applied to outer surfaces, it can be rendered with cement mortar; applied to inside walls, it may be plastered if desired, or finished in distemper or wallpaper. Being strongly adhesive, Synthaprufe is also a perfect waterproof fixative for linoleum, wood blocks, and other floor or wall coverings.

In short, Synthaprufe offers the architect, builder, and engineer a waterproofing and jointing material of unusual efficiency and versatility, ready to use and easily applied.

SOME SPECIAL USES

- **Sealing concrete structures above and below ground level — swimming-baths, reservoirs, cooling-towers, etc.**
- **Protecting concrete piles, steelwork, sewer-pipes and joints, etc.**
- **Waterproofing asphalt, lead, zinc, corrugated iron, or felted roofs.**

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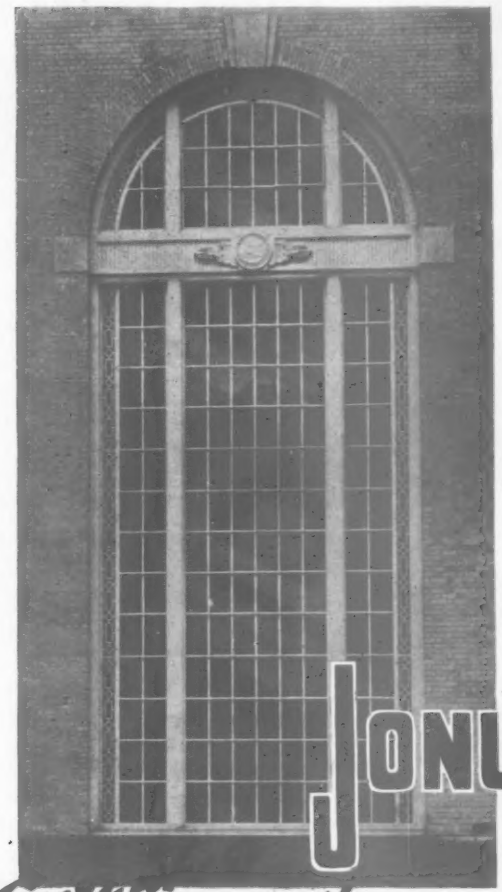
Manufactured by the NCB ***National Coal Board***

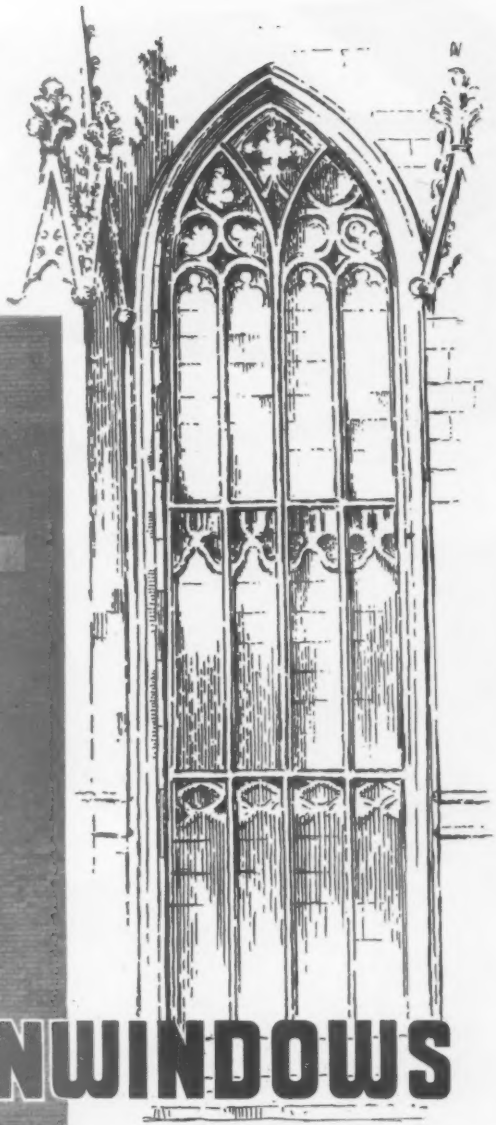
Synthaprufe is a product of British Coal. Further details, and advice on any technical problem, will gladly be given on application to the National Coal Board, By-Products, N.P. Bank Buildings, Docks, Cardiff

Windows of yesterday

Our example is based on a south transept window of t. Mary Redcliff, Bristol. The window below exemplifies a typical 'purpose made' JONWINDOW production, supplied for the Swansea Guildhall.

In 1951 Jonwindows will be supplied to The Building Centre New Premises at 26 Store Street, London W.1.; and British European Airways Buildings, London Airport





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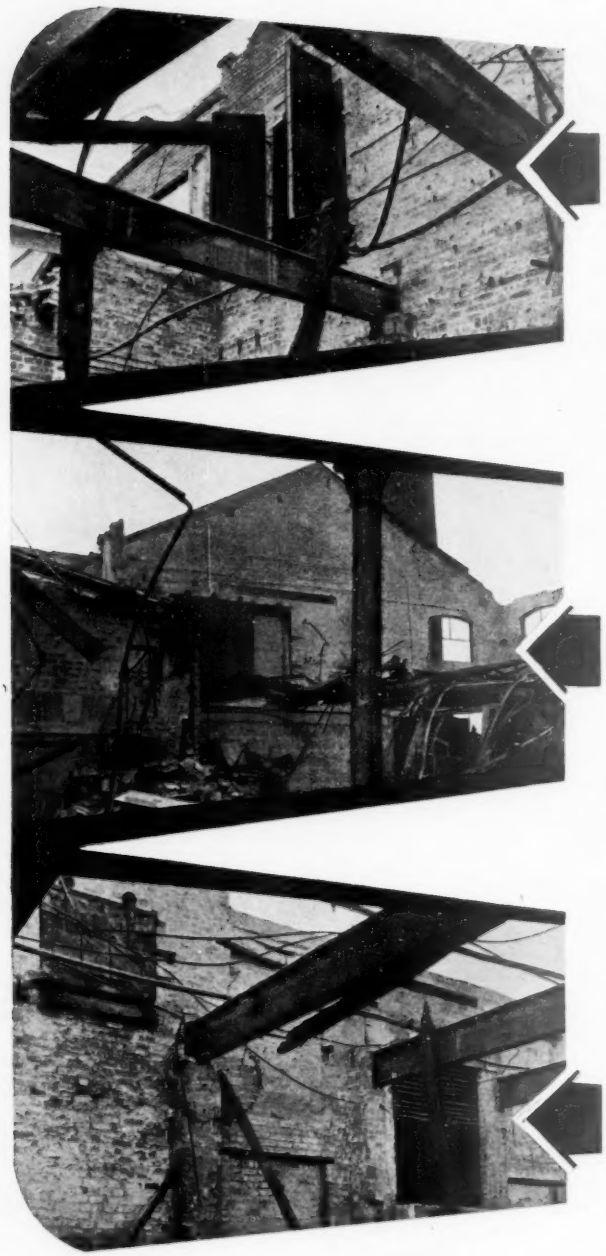

M&P Fire Doors halt blaze

On the night of March 24th, 1950, Mather & Platt Fire Doors checked the spread of fire at premises occupied jointly by a firm of raincoat manufacturers and a firm of food manufacturers. The installation of Fire Doors and one Steel Rolling Shutter built to F.O.C. requirements had been completed only three months previously.

80,000 coats destroyed in adjoining premises

Press reports say that "Within a few minutes flames had swept the length of the 100 yards by 75 yards building, destroying 80,000 raincoats being made up for Government orders." The party wall which separated the premises of the food manufacturers from those of the raincoat manufacturers was pierced by a series of openings, protected by Mather & Platt Fire Doors and a Steel Rolling Shutter. The Doors and Shutter fulfilled their purpose perfectly. The fire was completely checked at the party wall.

Mather & Platt F.O.C. Shutter guarding a vital stairway

A special problem was presented by a flight of steps leading down from the first floor of the gutted building to the ground floor of the building which remains intact. It was solved by the installation on one side of the wall of a steel rolling shutter built to F.O.C. requirements, and on the other a Fire Resisting Door. The Steel Rolling Shutter held the fire in check at this point.

MATHER & PLATT LTD

MANCHESTER 10

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LEAD LASTS

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LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, S.W.1

LEAD TECHNICAL INFORMATION BUREAU, 90 EBURY STREET, LONDON, S.W.1. Telephone: SLOane 0474

LID/2/51

Announcement!

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May we help in the solution of YOUR acoustic problem? Our technical representative will call at any time, on request.

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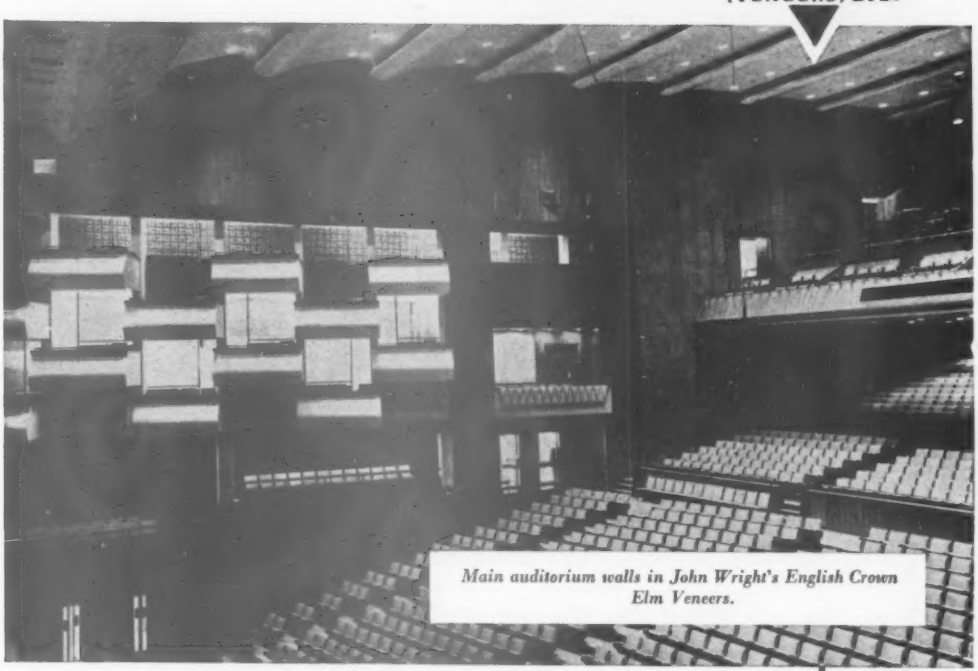
AT THE ROYAL FESTIVAL HALL

Harmony in Wood

by

JOHN WRIGHT & SONS (VENEERS) LTD.



Main auditorium walls in John Wright's English Crown Elm Veneers.

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KINNEAR PATENT STEEL ROLLING SHUTTERS | KINROD STEEL ROLLING GRILLES

Beer Bar Counter in Canteen, fitted with
3 Kinnear Shutters

NORTH THAMES GAS BOARD

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Contractors .. .. *Messrs. Taylor Woodrow Construction Limited*

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Main Canteen .. .. .. 7 Kinnear Shutters fitted between columns and thus forming a screen, easily applied or removed, for the full length of the room.
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Sizes : 4", 6" wide, maximum length 3' 0". All treads are ¼" thick and nosed on one edge.

Colours: White, Cream, Buff, Bright Green, Red, Green, Grey, Brown, Black and Blue.

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Safety Treads

for wood, metal and concrete stairs

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Vol. 199. No. 4300.

THE ARCHITECT & BUILDING NEWS

May 18, 1951.

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EIGHT YEARS OF T. & C.P.

THE Ministry of Town and Country Planning, by its merger with "Local Government" and, thereby, having ceased to exist, has now presented an account of its eight years of existence.* It is a very thorough review and contains much that jogs memories and much more to explain the complexities and difficulties that beset attempts to plan a whole country democratically and without resort to the methods of classic tyrants or twentieth-century totalitarianism.

Whether results yet justify the means is a matter upon which it may be, perhaps, premature to inquire too deeply; for the Ministry has only had about five years of so-called peace and has only worked under a comprehensive planning Act for a period of about three years. There is no doubt that the achievements obtained in this time are laudable and extensive enough for commendation; progress with the new development plans and the rebuilding of war-damaged towns; the starting of a number of new towns, the laying down of general principles for national parks, mineral workings and the preservation of trees and buildings. All these things move—a little too slowly for some people—in the right direction and any movement means the acquisition of momentum to assist further progress.

The Report does well, however, to point out that "planning legislation does not solve problems: it only provides a framework within which solutions can be found". In this lies the very heart of planning; to ignore it may lead to frustrations and failures in the future. To be effective planning must be linked with the will and wishes of the citizens (and countrymen) in general; it must be understood and wished for and not imposed. A framework, yes—a rigid compulsory code, no.

This fundamental co-operation between all parties towards planned development must not come about through or operate only within the mechanism of mere representational government, whether local or central. The individual or the very smallest community in the isolated hamlet must feel contained within the framework; it is essential to realise that the weakest link may prove the strength of the chain. To accomplish this the Government and its Ministry will have to appreciate even more clearly that preferential treatments—or what seem so to the man-in-the-street—must be avoided or better explained. Countrymen cannot but feel that the Service Departments are so treated and that too much land is still occupied, used, unused, or misused, by these departments. He feels also that open-cast workings of all kinds are not so well under control as they should be and that his protests are not really effective, because somehow or other they get lost within the framework. The townsman wonders, too, sometimes when major rebuilding operations will start in the more devastated parts of his towns and cities and why most of the larger buildings in London are destined to house the operators of the framework and of their colleagues. Offices, workshops, factories, schools and hospitals come, or should come, very, very soon after houses.

Both townsmen and countrymen, whether they be motorists or not, wish to see some of those lines on paper evolve into those special and trunk roads which would relieve urban congestions, speed-up deliveries of goods and save life. When there is time, too, to think about it, some wonder exactly what and where is the integrated planning between the railways, the roads, the canals and the air. And are the new towns, especially those around London, really anything more than satellite communities based on the central congestion—can they be anything more than Welwyn is, fifty per cent. dormitory? Letchworth would seem to

* *Town and Country Planning*. 1943-1951. H.M.S.O. (Cmd. 8204) London. 1951. 5s. net.

be at the very minimum distance for a new town and would towns even at that distance relieve the congestions of Highbury or Hackney? We know it will be said that the Acts are too young and time has been too short—perhaps that is so, but the questions will still be asked.

But—even so—we cannot help feeling that the eight-year Report of the Ministry is really too much concerned with ways and means, with the framework, rather than with the results of planning or the effects on the individual who, after all is said and done, remains the planning unit. This is demonstrated to some extent by the almost complete exclusion from the Report of any mention of research and contributions to planning made by other bodies or individuals. Naturally this Report is concerned with the work of a Government department and the latter may wish to keep within its "terms of reference". But how much does the work of the Ministry owe to private bodies or people who labour quietly and continuously for the amenities of a planned community. A few more acknowledgements would be becoming; chapter XII—"Technical Work: Some Particular Aspects"—might have been a good opportunity to acknowledge many or certainly the greater debts.

In Appendix I is given a list of ninety-eight local reports and plans published since 1943. A few of these were made at the special instigation of the Ministry, most of the remainder were commissioned and paid for by the local authorities concerned. Some were good and some indifferent, some thorough and some pious, but what is happening to all this work? Not a single note is given in the present Report to show what progress is being made with any of these post-war plans or whether they really are being incorporated or used in the preparation of the new development plans, due this year. All we do know (not from the Report) is that a number of the plans are being departed from, misused or ignored while interim development crowds in upon the local authorities; and this, chiefly, because the spurs are rating accounts and politics rather than community planning.

Planning must not ingrow and must not remain entirely within the framework of official screens. It must never be reduced to a mere law, it is too vital and too all-absorbing.

View from the Choir School of Westminster Abbey. *Ink drawing by R. Rosner, A.R.I.B.A.*

EVENTS AND COMMENTS

CEMENT AND CONCRETE OCCASION

THE opening of the new structures laboratory at the research station of the Cement and Concrete Association at Wexham Springs near Slough was celebrated last week. A very large number of guests representing all branches of the building industry heard the Director of the Association, Sir Francis Meynell, make an excellent and witty speech about the activities and development of the Association. He was followed by the new Minister of Works, Mr. G. Brown, who fully maintained the standard of eloquence. Mr. A. M. C. Jenour, Chairman of the executive committee of the Association, thanked the Minister for coming and gave some additional facts about the Association's work. Mr. Jenour finished by wishing the Minister, if not a long term of office, a very happy one, and this neatly rounded off the political sallies with which all three speeches were sprinkled. There was, however, not a breath of a whisper about nationalisation. As the speeches closed the sun came out, and after an excellent lunch, provided by the only firm which seems to have little gold chairs, the guests were free to wander round the research station.

The building, which was formally opened, was designed by Christopher Nicholson, who was warmly referred to by Sir Francis, and was carried out by Hugh Casson and Neville Conder. A full description will appear in a later issue. Meanwhile I will content myself by saying that it is simple and straightforward—Nicholson's prescription for all buildings—and it looks very well indeed. The clients naturally required that it should be of concrete construction, and much of it is. It was, however, a condition of the town planning consent that one outside wall facing a field enclosed by trees and miles from anywhere, should be in yellow stock brick to tone with the nearby house. Really a most stupid requirement. Not that the building loses anything thereby. In an effort to use as many different types of concrete product as possible, the clients have perhaps slightly overdone the variety of external finishes and they have not improved the internal or external architecture by the addition of extra electrical conduits and switches. These minor blemishes do not alter the fact that it is a good building and a contribution to architecture.

The structures laboratory forms only a small part of the research station layout, which includes chemistry and physics labs, the Association's publications department—and how good their publications are ! But that is hardly surprising with an R.D.I. typographer as Director—a surface finishes display area, prestressing beds, and many other departments. At Wexham Place, nearby, the Association has its training school for concrete technology. As often happens on these occasions, there were so many people to talk to that a full inspection was not possible. The research station is clearly a place to be visited again, for not only is there a great deal to be seen on the subject of concrete, but the gardens are lovely.

FESTIVAL STORY

MY best Festival story for the week is about the distinguished designer who, with his wife, was invited to the South Bank on the occasion of the royal visit.

Their Majesties with Mr. Gerald Barry outside the Lion and Unicorn Pavilion.

He noticed that the tickets were larger and shinier and much more impressive-looking than those being carried by much more important people; furthermore, he noted that they bore the number of reserved seats. The only reserved seats were on the dais and he and his wife were duly shown to two behind those occupied by Cabinet Ministers. It was not until the ceremony had begun that he looked again at his tickets and discovered that they were for the opening of the book exhibition at the Victoria and Albert Museum.

Runner-up for the week is the story of an usher at the service at St. Paul's who, as a reward for showing George Robey to his seat, was presented with a signed self-portrait on half a postcard. A unique Festival souvenir.

THE FESTIVAL CHURCH

I LIKE the way the Church of St. John, Waterloo Road, has been done up for the Festival. Whether or not it was like it is now when originally built, I do not know, but it has a brightness and restrained gaiety which seems to me to be entirely suitable for its purpose. It will not be easy to keep clean. I had not realised that it was one of the churches built as a public thanksgiving for the victory of Waterloo. Mr. Thomas Ford has done a fine job, but I think that it is a great pity to have included a mural by Hans Feibusch in this setting. A minor point which almost spoiled the singing of the excellent choir from St. Edmund's School, Canterbury, was an unbelievably squeaky door which sounded as if it had not been oiled since the church was first built.

VACATION WORK FOR STUDENTS

THE R.I.B.A. is concerned at the lack of responses by architects to its appeal for holiday positions in offices for students. There is only a little time now before summer vacations begin. A large number of students rely on the R.I.B.A. to find them holiday work.

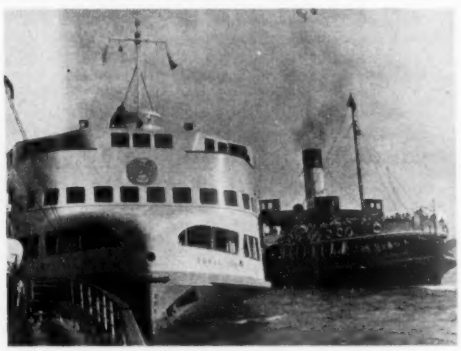
I feel sure that it is only Festival preoccupation which is preventing architects from offering to help. If you can take a student or so, please write to Mr. Spragg as soon as possible.

ONE WAY GLASS

I WRITE that heading, and duck. A furious letter will follow without doubt from my old friends, Messrs. James Clark and Eaton. My excuse is that I have two photographs, too bad for reproduction, taken at Vaernamo in Sweden, of a house designed by Bruno Mathson. The walls are of three thicknesses of glass and *it is claimed* that you can see out but not in. This may or may not be so, but the important thing is that *it is also claimed* that this sort of house costs only 65 per cent. of the cost of normal houses. Ninety per cent. of the building is of glass. Whether you can see through it or not, J. C. and E. would doubtless agree that this would be very good for business.

ARCHITECTS AFLOAT

MY picture shows a bow, I presume, view of the new Wallasey ferry boat, *Royal Iris II*, which was chartered on its maiden voyage by the Liverpool University Architectural Society for their annual dance. Rumour has it that they were forced to do this because no building in Liverpool could or would hold them. The dance seems to have been a great success, and this hardly surprising as there were three large bars on the dance floor. The only dissatisfaction expressed was with the design of the boat, which is heavily streamlined and has a dummy funnel full of water tanks, useful for diluting the drinks in the three large bars. In spite of its "moderne" appearance, it is said to accommodate very few more than the older type shown alongside, and, rather surprisingly, contrives to move at about the same speed. Still, we must have progress, and I was in my turn very put out when they abandoned the old sailing and pulling ferries and turned over to that nauseous steam.



Royal Iris : Built 1951 ; 2,500 ferry passengers; Gross tonnage 700 ; Diesel Electric Twin Screw ; 13 knots max.

SALUTE TO HUGH CASSON

NOW that the thing is open and quite obviously going to be a great success, the bouquets should be prepared for handing out to the people responsible. Hugh Casson, as the Director of Architecture, quite clearly should receive the largest. He may like to hand on some of the choice blossoms to those who have shared the responsibility and worry with him, but there is no doubt that, as the commander on the spot, he should receive the praise. The danger is that, kind and sensitive soul as he is, he will be embarrassed by the praise and publicity that he will receive and which he will think may be due to others. He must know that as head man this sort of thing is bound to occur. Indeed, who would receive the blame if it were a flop? The difference is that some people would take it as their due, a thing Casson would be quite incapable of doing. No one is foolish enough to think that Casson designed everything himself, or that he took all the decisions, or that the success of the exhibition is solely due to him. Praise of Casson is praise of the whole team, not just the designers whose names appear in the programme, but of their assistants, secretaries, and those who make their tea. Hats off to Hugh Casson.

COUNTY ARCHITECTS

IF any county council adopts the recommendation of the negotiating committee for chief officers of local authorities that county architects should receive £4,000 a year, I shall have to look into this official architect business.

EXHIBITION OF WORK OF A.A. MEMBERS IN S. AFRICA

I MENTIONED some time ago an exhibition of work by members of the A.A. in South Africa, which I did not have time to see at the reception. Seven or eight firms were represented and buildings ranged from cinemas to small houses. The variety made my mouth water. Many of the buildings, both commercial and domestic, looked more to the United States than to this country for inspiration, although some, and notably the science lecture theatre for the University of Capetown by Thornton White, Pryce Lewis, Harper and Sturrock —titles of firms, too, have an American flavour—struck me as possessing considerable originality. The revolving stage with physics set-up on one side and chemistry on the other, was a bright idea.

The organisation of this exhibition was a good idea and one which the R.I.B.A. might consider copying.

PLANS FOR SALE

A GENTLEMAN who describes himself as a consulting engineer and surveyor is prepared to send you twenty-four different house plans, with front elevations, for the sum of 32s. 6d.—two sets for £3 post free—drawn on cartridge paper to eighth scale. Each plan is on a separate sheet.

I particularly like the idea of the front elevation only being provided. I can usually manage to design one elevation; it's the ones round the corner which cause the bother. The advertiser is magnanimous enough to say that no further fees or charges are made for building to these plans. Architects in search of ideas will rightly feel that 32s. 6d. is a lot to pay for 24 plans, when they can buy 30 for 3s. 6d. in the *Housing Manual*. It is true that the pictures in the *Housing Manual* are a little small for handing to the builder, but the *Manual* with its technical appendices at a further 1s. 6d. even tells you how to build the things.

ERGONOMISTS

A WEEK or so ago the printer, thinking I could not spell, altered this heading to Economists, with the result that I have received a slightly pained note from one of the joint honorary secretaries of the Ergonomics Research Society suggesting, in so many words, that I do not know what an economist is. Ergonomics, as I have explained before, is the study of the relation between man and his working environment. Anyone who is interested in this subject should write to K. F. H. Murrell, Mizbrooks, Capel, Surrey.

ABNER

NEWS OF THE WEEK

Lake District National Park

The Minister of Local Government and Planning, has confirmed the Designation Order for the Lake District National Park made by the National Parks Commission on January 30, 1951.

Applications for permission to develop land should continue to be sent to the offices of the appropriate local authority until the Minister sets up a joint planning board as the planning authority for the Park. When this joint board is set up, a further announcement will be made.

Reception for Architects and Students from the British Commonwealth and the U.S.A. in October, 1951

The Council of the R.I.B.A. had the greatest pleasure in welcoming so many visitors from the British Commonwealth and the U.S.A. at the informal reception given last autumn, and they have decided to hold another informal reception this year on the same lines.

The reception will be held at the R.I.B.A. on Tuesday, October 9, 1951, and, as last year, proceedings will be entirely informal. The Institute knows the addresses of a number of visitors from overseas, but there are certainly a great many more whose addresses in England are not known. It would be appreciated if any architect who knows the names and addresses of any architects or students from the British Commonwealth or the U.S.A. visiting England will send details to the Secretary, R.I.B.A., so that invitations may be sent to these visitors. It would be of further assistance if any correspondence on this subject were marked on the envelope "Overseas Reception."

Housing Centre Conference

A conference on "Housing: the Next Five Years," is being held by the Housing Centre Trust from Wednesday, June 6 to Friday, June 8.

The programme includes a tour of the Lansbury site (June 6); a choice of tours to St. Pancras or Finsbury (June 7) and Pimlico or Guiness Trust Buildings, King's Road, followed by an "At Home" (June 8).

Applications for Conference tickets, tour tickets and invitations to the "At Home," should be made by May 25 at the latest.

*

St. Paul's Garden, designed by Professor A. E. Richardson, R.A., was opened last week by the Lord Mayor of London.

R.I.B.A. Maintenance Scholarships in Architecture

The Royal Institute of British Architects offer for award in July, 1951, the following Maintenance Scholarship in Architecture, tenable from October 1, 1951: Four R.I.B.A. Houston Maintenance Scholarships of a maximum value of £125 per annum each. They are available for any stage of training at a Recognised School of Architecture and are awarded in the first instance for one year. They are renewable from year to year.

(The Houston Maintenance Scholarships are for the purpose of providing educational and maintenance allowances for the sons of architects and artists, who may be, or at the time of their death were, in impecunious circumstances, whether such architects or artists be alive or dead.)

The Scholarships are intended to enable promising students, whose parents or guardians have not the necessary means, to attend approved courses at the Schools of Architecture recognised for exemption from the R.I.B.A. examinations. Students already taking such a course are also eligible to apply for a Scholarship. The Scholarships are available only for students who are British subjects by birth or naturalisation.

The value of the Scholarship, up to the limits stated, will depend on the financial circumstances of the parents or guardians of the candidate. The parents or guardians will be required to furnish particulars on the proper form of their financial position.

Applications for the Scholarships (in accordance with the regulations for applications) must be made to the Secretary to the Board of Architectural Education, R.I.B.A., 66 Portland Place, London, W.1. The closing date for the receipt of applications, duly completed, is June 29, 1951. The award will be made towards the end of July.

The Royal Family at the South Bank Exhibition, with members of the Cabinet, General Lord Ismay and Mr. Gerald Barry

Housing Progress for March

The number of permanent houses completed in Great Britain during March was 16,757 compared with 13,984 in February and 13,150 in January.

APPOINTMENT

Mr. Charles H. Simmons, A.R.I.B.A., DIP.T.P., has been appointed successor to Mr. A. G. Chant, F.R.I.B.A., as County Architect for Shropshire on the retirement of Mr. Chant in August 1951. Mr. Simmons is at present Deputy County Architect of Lancashire.

OBITUARY

The death has been announced of Mr. Andrew G. Patrick, formerly a partner in the firm of Messrs. MacLean, Souter & Salmon, of Dundee. He was 87.

The death has also occurred of Mr. Arnold R. Keane, A.I.A.A., M.INST.R.A., of Chester, at the age of 34.

The death has taken place in Dublin of Mr. Stephen Kelly, P.P.R.I.A.I., a member of the firm of Messrs. Jones & Kelly.

COMING EVENTS

Ecclesiological Society

● May 21, at 7 p.m. "Spanish Cathedrals and Churches." Speaker: A. T. Bradford.

Royal Sanitary Institute

● May 23, at 2.30 p.m. "The Pimlico District Heating Scheme, Westminster—an Important Hygienic Development." Speaker: A. E. Margolis.

Institution of Structural Engineers

● May 24, 5.30 p.m. Annual General Meeting.

Town Planning Institute

● May 25-27. Annual General Meeting, Southampton.

Society of Architectural Students, Northern Polytechnic

● May 25, at 4.30. "Furniture Today." Speaker: Christopher Heal.

EXHIBITION

May 20-June 2. Exhibition of Architecture at Octagon Chapel, Milsom Street, Bath.

IN PARLIAMENT

Choosing the Advisors

THE professional associations which have been invited by the Minister of Local Government and Planning to nominate representatives on the committee to advise him on the revision of the model building by-laws are: the Association of Municipal Corporations, British Standards Institution, Federation of Associations, and Specialists and Sub-Contractors, Federation of British Industries, Incorporated Association of Architects and Surveyors, Institution of Civil Engineers, Institution of Municipal Engineers, Institution of Structural Engineers, National Federation of Building Trades' Employers, National Federation of Building Trades' Operatives, Royal Institute of British Architects, Royal Institute of Chartered Surveyors, Rural District Councils' Association, Royal Sanitary Institute, Urban District Councils' Association.

Mr. Bossom, to whom Mr. Walton gave this information (May 7) had asked for an assurance that the advisory committee would include at least one sanitary inspector. **Mr. Dalton** refused this, pointing out that he must leave it to the nominating associations to choose whomsoever they thought best qualified for the task. He could not add to the committee's numbers without making it unwieldy—each of the 15 associations named will nominate a member—but the committee would be free to take evidence from any body with special knowledge and experience.

Thatchers' Concern

Mr. Digby questioned the Minister of Works about the anxieties of the Dorset Master Thatchers' Association about the future of their ancient craft; and asked if he was prepared to abolish the regulation that a building licence must be obtained where the cost of thatching a building was estimated to be more than £100, since the materials used in thatching were not controlled or scarce and thatchers were not employed on any other type of building work.

Mr. G. Brown said that he was not prepared to do so. He had not heard that the building licensing regulations had caused any difficulty to thatchers. Mr. Digby emphasised the importance of encouraging thatchers in view of the large number of thatched buildings which could not at present be converted. Mr. Brown acknowledged its importance, and invited Mr. Digby to let him know of any difficulty. (May 8.)

Colour Sheet

Miss Hornsby-Smith asked the Minister of Works why, in connection with letting contracts to the building industry for work including painting operations, he specified a short closed list of paint manufacturers, from which many well-known and reputable firms were excluded, whose products might be obtainable at more economic prices; and what were the qualifications for inclusion in this list. **Mr. Brown** explained that in order to ensure paintwork of high quality and long life in Crown buildings, and Government buildings taken on long lease, the decorators' choice of paint was at present limited to the products of 21 firms which had undergone rigorous tests and were guaranteed. For other purposes this restriction did not apply. Any reputable manufacturer whose paint passed the tests, and who would give the required guarantees of performance, could secure entry to the limited list. He added in reply to further questions that there was nothing to prevent firms knowing the specifications and having their products tested and approved. He was not aware that there was difficulty in getting decisions, or that though some firms had put their names forward for the list nothing had happened. If particulars were given to him he would have them looked into. (May 8.)

Restrictions on Timber

The Minister of Local Government and Planning was asked by Mr. Vane (May 8) when he expected to be able to relax the restrictions on the amount of softwood used in each new house, and replied "Not until we have increased our stocks." Mr. Vane asked if this meant that there was not sufficient timber on the market, or simply that we had not been able to get it. Mr. **Dalton** told him that supplies of Canadian softwood would be the highest since the war, and sufficient to cover defence requirements as well as civil building. On the other hand, stocks had fallen uncomfortably low and must be built up. As soon as they were he would be only too delighted to give a further allocation to housing. Mr. Bossom interpolated that there were quantities of wood in Germany waiting to be purchased, and Mr. Dalton said the Department was aware of that.

The Needed Steel

Mr. Marples asked the Minister of Works what steps he took when granting licences for civil engineering construction to ensure that any steel required was available. **Mr. G. Brown**: "None." Then Mr. Marples asked if he realised that a large amount of building had been started after licences had been granted and then stopped because of the lack of steel. Would it not be better if there were some system by which, when licences were granted, the authorities made sure that the steel was available. **Mr. Brown's** reply was that if Mr. Marples was pressing for further Government controls he would certainly consider it. (May 8.)

Temporary Display

Mr. Arthur Lewis suggested to the Lord Privy Seal leaving the South Bank Exhibition site in permanent existence, after the conclusion of the Festival of Britain, so that it may be used as an exhibition site, on a hiring basis, by British manufacturers for trade and industry exhibitions. **Mr. R. R. Stokes** rejected the idea. He was advised that most of the buildings were not suitable for this purpose, and none had any heating installation. In any case, the site would eventually be needed for other purposes. (May 8.)

Two-Roomed Houses

The Secretary of State for Scotland informed Major N. Macpherson that local authorities were encouraged, within their normal allocations, to build houses for old people consisting of a living-room and bed-alcove or bedroom. Tenders for 706 houses of this kind had been approved since the war. (May 8.)

Turned Off

Mr. Dalton stated in answer to Mr. Marples that he would not in future confirm new by-laws making B.S. 1010 taps compulsory. (May 8.)

A Tarran Project Rejected

The Secretary of State for Scotland announced his decision on May 8 on the suitability of the Tarran low cost bungalow for local authority housing.

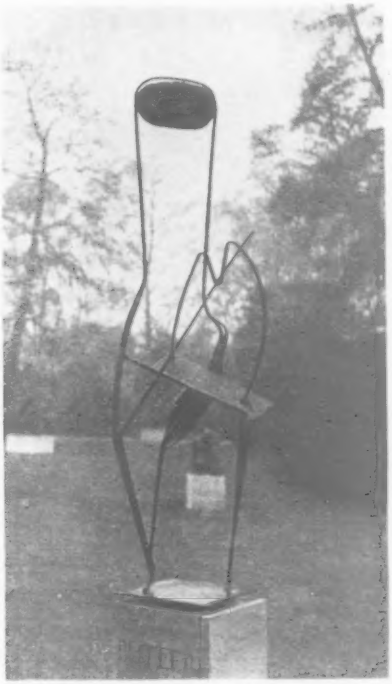
Mr. McNeil stated that the Building Research Station had completed their investigation into the proposed method of construction, and had reported that at present designed the house fell below the recommended standards of structural efficiency in the following respects: The party wall was not strong enough and would have to be given additional lateral support; as designed it did not provide sufficient sound insulation to conform even with normal standards which he did not consider to be high; and there would be, he was afraid, a risk that fire would spread across the top of the wall at ceiling level. The edges of the Granolithic floor finish, which are exposed to rainwater shed from the external walls, are likely to allow water penetration into the floor with resulting dampness. There is also a serious risk of condensation in the walls and roof. The report adds that under normal conditions of usage and maintenance the bungalow is not considered to be sufficiently durable for a life of 60 years.

In these circumstances while he was at all times anxious to encourage more economical building, he regretted that he could not under existing legislation approve the bungalow for subsidy purposes. He wanted to make two points clear. The Building Research Station's report related not to the original bungalow, estimated to cost £500, but to that bungalow as materially improved to meet the initial criticisms of the experts as regards standards and equipment. It should be appreciated that, while he had no precise figures, this improved type would cost, he was assured, around £1,000. The second point was that the criticism did not apply to the Dorran concrete bungalow designed by the same firm which was structurally sound and had already been approved by the British Research Station and his Department for erection by local authorities.

* * *

R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities

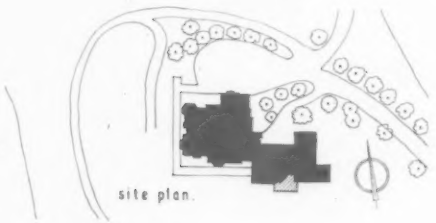
At the R.I.B.A. Examination for the Office of Building Surveyor under Local Authorities held on April 25, 26 and 27, 1951, eleven candidates presented themselves and the following were successful: Mr. Gordon J. Gill, Mr. Dennis A. Goldstone, Mr. Harold W. Haynes, Mr. James T. Midgley, Mr. Gilbert Tattersall, Mr. Jack Whitehead.



SCULPTURE IN BATTERSEA PARK

This exhibition has been organised by the L.C.C. and the Arts Council, and remains open until September. There are 44 exhibits. Above: "Torso," in iron; by R. Butler. Below: "Woman with Fish," concrete; by Frank Dobson. Right: Top; Bronze by late Charles Despian. Centre; Bronze by Henry Moore. Bottom; Bird, in welded steel plates; by L. Archambault.

DINING ROOM EXTENSION
LANGDALE CHASE HOTEL
Windermere



THE Scheme consists of an extension to the existing hotel dining room, together with a suite of three single bedrooms and bathroom for the use of guests.

The hotel stands on the east shores of Windermere about mid-way between Windermere and Ambleside. Magnificent views are obtained in all directions, and it was the clients' wish to take full advantage of these in the new dining room.

Langdale Chase was originally built in the 1890's as a private residence and must have been one of the last essays in the Victorian Jacobean style—with a flavouring of Hindu in the Prospect Tower.

The opportunity was taken in designing the new work to link up two previous extensions to the hotel. The broadly projecting canopy echoes the wide eaves of the block above, while the large windows are a contemporary version of the round arched loggia of the original building.

Site and Site Plan

The site slopes from north to south, so that although the Dining Room is well above the ground it is approached from ground floor level. This permitted the inclusion of the bedrooms below. The aspect is south and the gardens slope gently down to the lake.

The Plan

The Dining Room extension has been designed primarily for use during the summer months and can be separated from the main Dining Room by glazed doors. The large windows give unobstructed views over the lake to the fells beyond.

The extension is conveniently placed for access from the kitchens, and provision of a separate service door enables it to be used independently of the existing dining room if so required.

The three bedrooms below form a self-contained suite with its own bathroom and w.c. Each bedroom has fitted wash basin and built-in wardrobe.

Access to these bedrooms is through a covered way connecting the two previous extensions. Local bylaws did not permit the closing up of this passage, under which runs the main drain for the property.

Above the Dining Rooms a terrace has been provided to one of the principal bedrooms.

Construction

The lower walls are 2 ft. thick local random rubble with York Stone dressings. 13½ in. by 9 in. blue brick piers support the reinforced concrete roof, which was cast in situ on permanent insulating shuttering of 2 in. "Gypklith." The roof is covered with three layers of felt and insulated by 1 in. cork over the projecting canopy and 1 in. thick asbestos tiles over the terrace.

Internal walls are of 4½ in. brick and 3 in. breeze.

The floors are normal timber joist construction with Fibreglass insulation.

The metal windows and railings are hot-dip galvanised.

Internal Finish

The view from the windows provides the main feature of the Dining Room and decoration has been kept to a minimum. The main wall of the old block, a particularly good example of the local best-faced (square-snecked) random rubble, has been left unrendered for its texture and colour—grey with red, brown and yellow natural markings. Other walls and ceilings have been painted dove grey. The floor is boarded with Siamese Krabak (a substitute for maple) in narrow widths, so that the room may be used for occasional dances.

In the bedrooms the flush doors are french polished, the paintwork is cream. The glass screen at the entrance to the bedrooms is in oak, glazed with Georgian wired glass.

Services

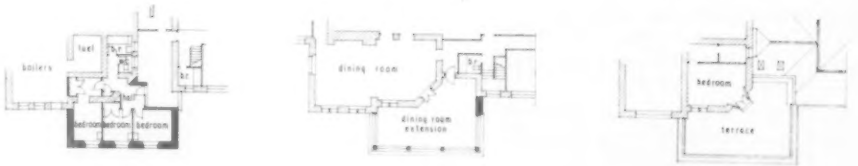
The new work is heated by an extension of the existing central heating system.

* * *

GENERAL CONTRACTOR: H. WILLS, WINDERMERE. *Reinforced Concrete:* The British Reinforced Concrete Engineering Co., Ltd., Stafford; *Bricks:* The Claughton Manor Brick Co., Caton, Lancashire; *Stone:* The Burlington Slate Quarries, Kirkby-in-Furness; B. T. Thompson, Southowram, Halifax; *Special Roofing:* Messrs. D. Anderson & Son Ltd., Manchester; *Glass:* Messrs. Pilkington Bros., St. Helens; *Concrete Sills:* The Shap Granite Co. Ltd., Shap, Westmorland; *Wood Strip Flooring:* Messrs. J. A. Hewetson & Co. Ltd., Hull (laid by general joiner); *Insulation:* Gyproc Products Ltd., Gravesend; Fibreglass Ltd., St. Helens; *Flush Doors:* Messrs. John Herring & Co., Newcastle-upon-Tyne; *Central Heating:* Messrs. Lawrence Airey & Co., Kendal; *Electric Wiring:* Messrs. P. Musgrave & Sons Ltd., Windermere.; *Plumbing:* Messrs. Lawrence Airey & Co., Kendal; *Door Furniture:* Messrs. N. F. Ramsay & Co. Ltd., Newcastle-upon-Tyne; *Casements:* The Crittall Manufacturing Co. Ltd.; *Plasterers:* Messrs. Elliott & Sedgwick, Kendal; *Railings:* The Morris Singer Co. Ltd., Walthamstow, E.1.; *Joinery:* Messrs. Gibson & Wilson, Windermere; *Painters and Decorators:* Messrs. Brantingham & Thwaites, Windermere.

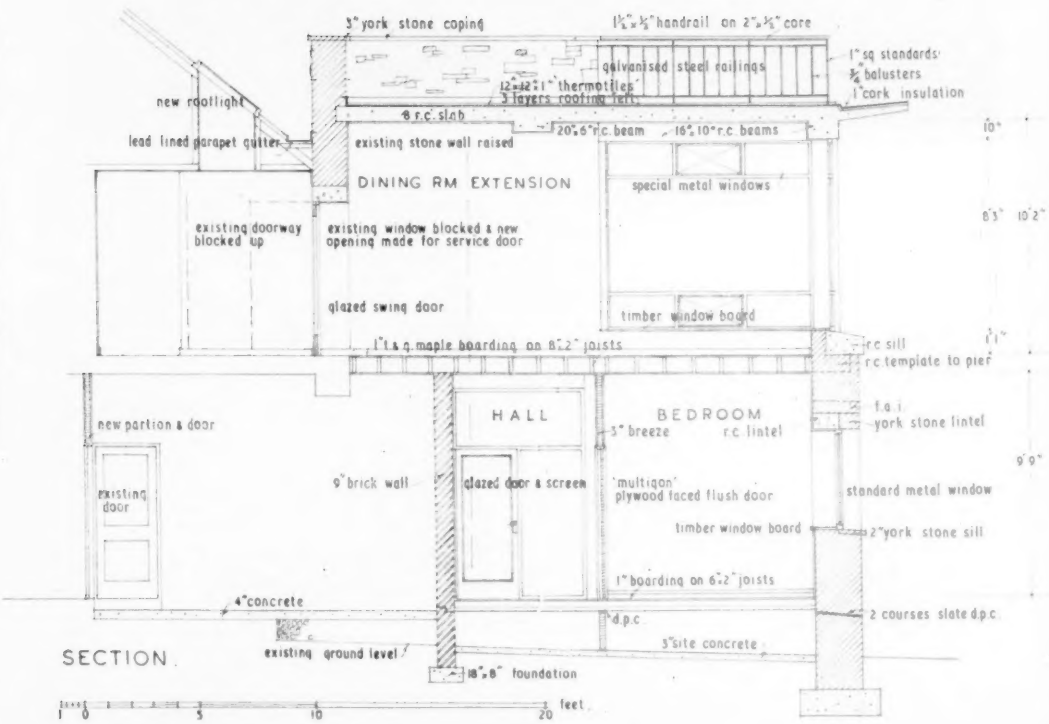
PLANS AS EXISTING

GROUND FLOOR FIRST FLOOR SECOND FLOOR



PLANS SHOWING ADDITIONS

Architect: E. DONALD HAIGH, A.R.I.B.A., A.M.T.P.I.



DINING ROOM EXTENSION: LANGDALE CHASE HOTEL

Flour Mill at Rondebosch, Cape Town, for Messrs. Suid-Afrikaanse Ko-operative Graanmaatskappy, Beperk, 1945.

Exterior of Research Block Medical School. University of Cape Town. 1950

Science Lecture Theatre, University of Cape Town. Rondebosch. 1949.

Science Lecture Theatre; Interior view showing revolving stage during revolution.

ARCHITECTS: THORNTON WHITE, PRYCE LEWIS, HARPER & STURROCK

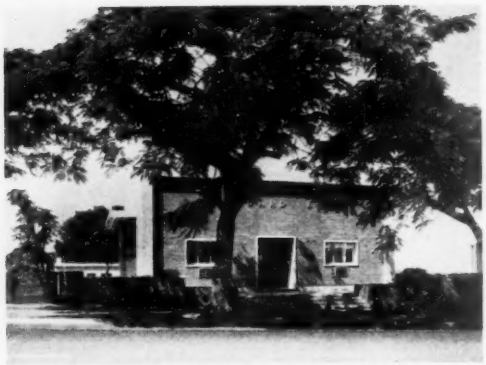
THE WORK OF A.A. MEMBERS IN SOUTH AFRICA

SOUTH Africa is a large and progressive country which is blessed with a perfect climate and a large variety of natural building materials, which are not as yet used to their fullest effect owing to the hard-dying principles of construction which were inherited from the old world. On the other hand, a craft of great architectural value was brought to South Africa by the early Dutch settlers who made full use of the clays which they found and this tradition has given rise to a wide variety of building bricks with many pleasing colours and textures. Their influence can also be seen in the use of clay tiles for flooring in many colours and patterns. These floors help to a great extent to keep the houses cool in the hot weather which prevails for nine months of the year.

Stone in South Africa is very young and owing to the volcanic nature of the land this stone has acquired many various and beautiful colours ranging through the full circle of the spectrum from green and yellow to a bright rust. Stone is being used in the form of slabs for flooring, and for building decorative internal walls.

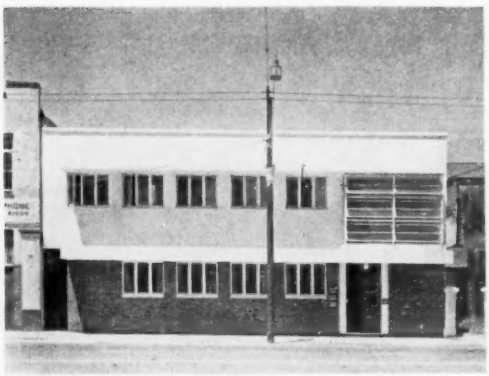
Timbers are not in abundance in South Africa. Those available are of the hard wood variety, and as such are used more for furniture and finishes. The majority of building timbers are imported from the Scandinavian countries and America.

Unlike this country, there are no building restrictions, and the architect can give full range to his imagination in the choice of local materials and South

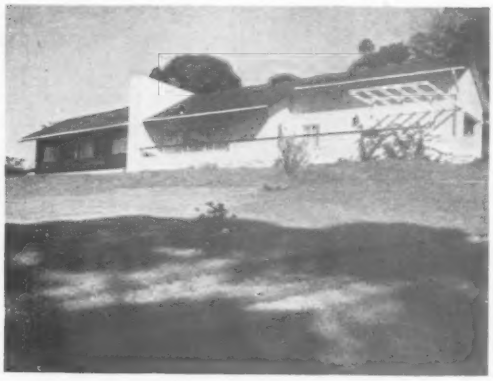


Standard Bank, Durban.
Architects: Ralph P. Hamlin & Park Ross.

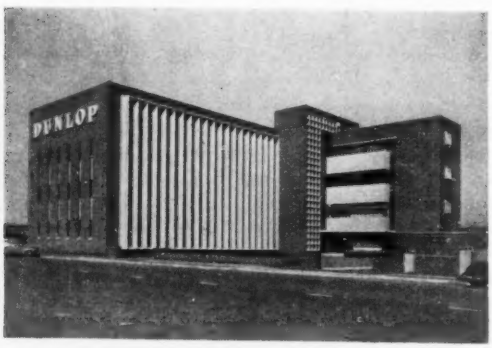
Standard Bank, interior.



Small Office Building, Durban.
Architects: Ralph P. Hamlin & Park Ross, Cape Town.



Houses at Durban, Natal South Coast.
Architects: Hamlin & Park Ross.



Dunlop Building, Durban.
Architects: Geoffrey le Sueur & Partners.

Medical and Dental Chambers, Durban, N.
Architect: D. Maxwell Allen.

African fabricated products are steadily becoming more available to him.

The 1951 Reception at the Architectural Association had amongst many other attractions a photographic exhibition of works by A.A. trained members practising in South Africa.

The photographs generally were mounted on bright yellow backgrounds to give an impression of the strong sunlight prevalent in South Africa. Gaily coloured contemporary furniture designed by Dennis Lennon and fabrics by Terence Conran supported the display whilst Africana loaned by the South African Tourist Corporation gave a touch of local colour.

One of the aims of the exhibition was to show how the climatic conditions in South Africa influence the architectural design, as is shown by the various treatments of horizontal and vertical sun louvres on the larger buildings and the wide overhanging eaves and "stoeps" or verandahs in the smaller domestic work. The stoep has now become an integral part of domestic planning for not only does it protect the interiors, but it gives the occupants an out-door living area that is a great attraction in a country that has been said by many to have one of the finest climates in the world.

The revival of a rather more delicately handled brick patterning in external walls than that of past periods is particularly interesting and gives a feeling of playfulness in contemporary work that has been lacking in the austere purist examples of the past few decades.

In closing, it should be noted that whilst the work submitted represents only a small part of the South African architectural scene, it is hoped that in the future a larger and more comprehensive exhibition can be held as there is much work of real merit that would be stimulating to architects in this country.

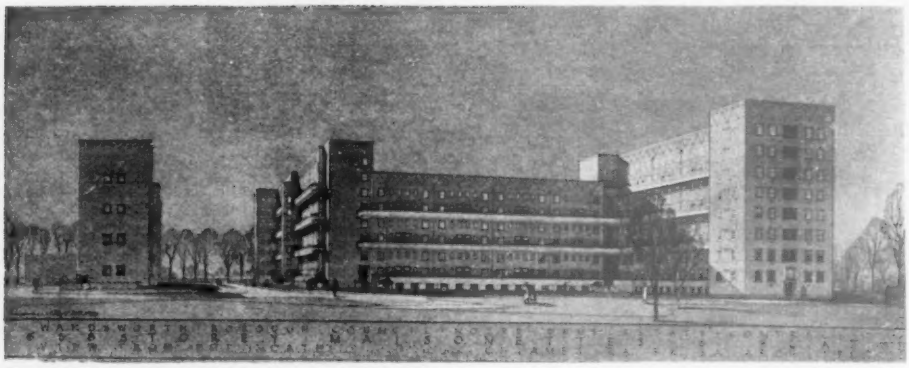
B. WIEHAHN.

The Princess Maternity Home, Johannesburg.
Architects: Stegman & Porter.

Showroom for Messrs. Robert Hamilton Ltd., Pretoria.
Architect: Mallows & Meadley.
Shopfitters: Fredk. Sage & Co. (S.A.) (Pty) Ltd.

Model of S.A. Railways. Railway Station. 1950.
Architects: Kennedy, Furner, Irving Smith & Joubert.

Municipal Offices, Witbank, Transvaal.
Architects: G. H. Crickmay, A. L. Everest.

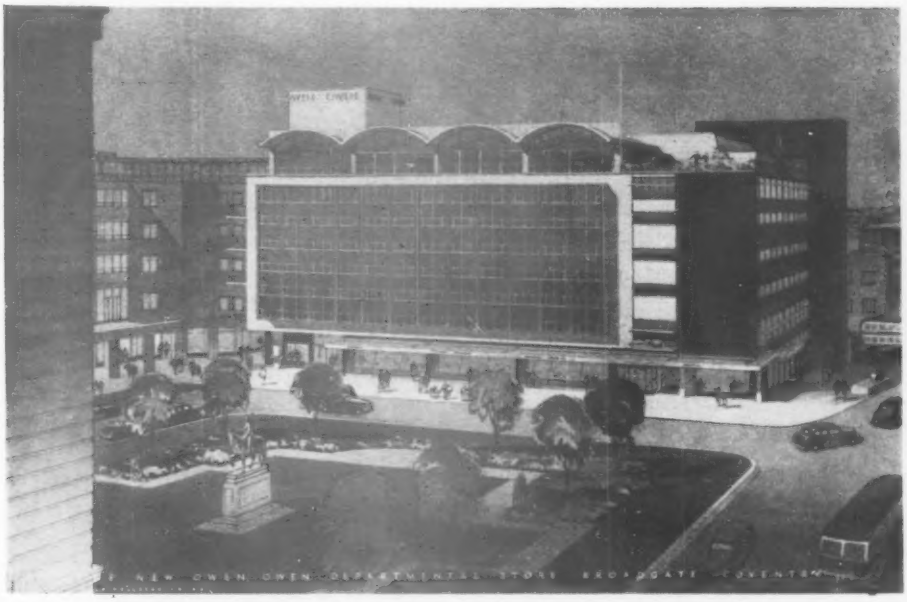


Flats and Maisonettes, Notre Dame Estate, Clapham Common. View from north. Architect: C. H. James, R.A. Draughtsman: Lawrence Wright.

The Fine Arts and Administrative Block, Exeter and South-West of England University College. Architect: E. Vincent Harris, R.A. Draughtsman: Philip Hepworth

Ackworth School, Yorkshire: Proposed Development Scheme. Architect: John L. Denman. Draughtsman: Charles Knight.

ARCHITECTURE AT THE ROYAL ACADEMY

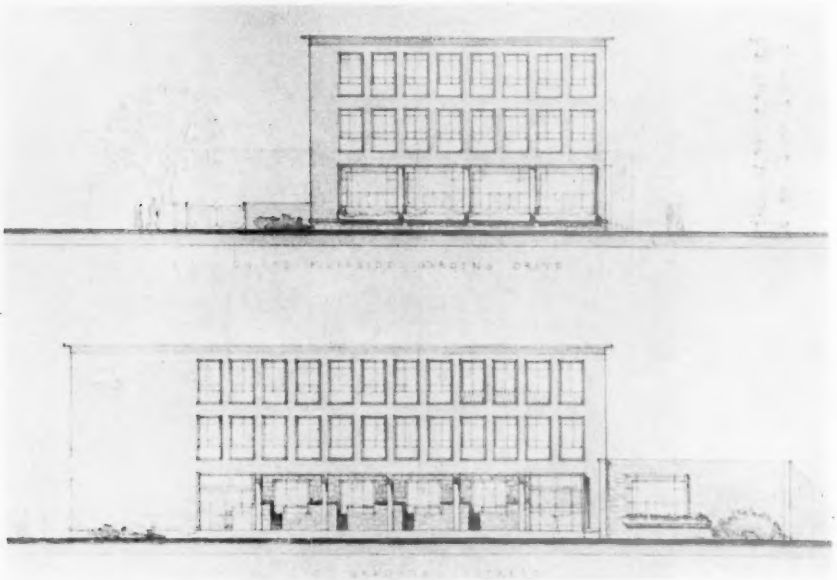


New Department Store, Broadgate, Coventry. Architect: Rolf Hellberg. Draughtsman: E. J. Thring.

Plashet Grove Secondary Modern School for the County Borough of East Ham.
Architect: George Whitby. Draughtsman: Lawrence Wright.

ARCHITECTURE AT THE ROYAL ACADEMY

Proposed Housing Development for the Metropolitan Borough of Hampstead.
Architect: Graham Dawbarn (Norman & Dawbarn). Draughtsman: J. M. D. Harvey



Tonbridge Crown Building. Architect: Edward H. Banks. Draughtsman: S. C. G. Lambert.

ARCHITECTURE AT THE ROYAL ACADEMY

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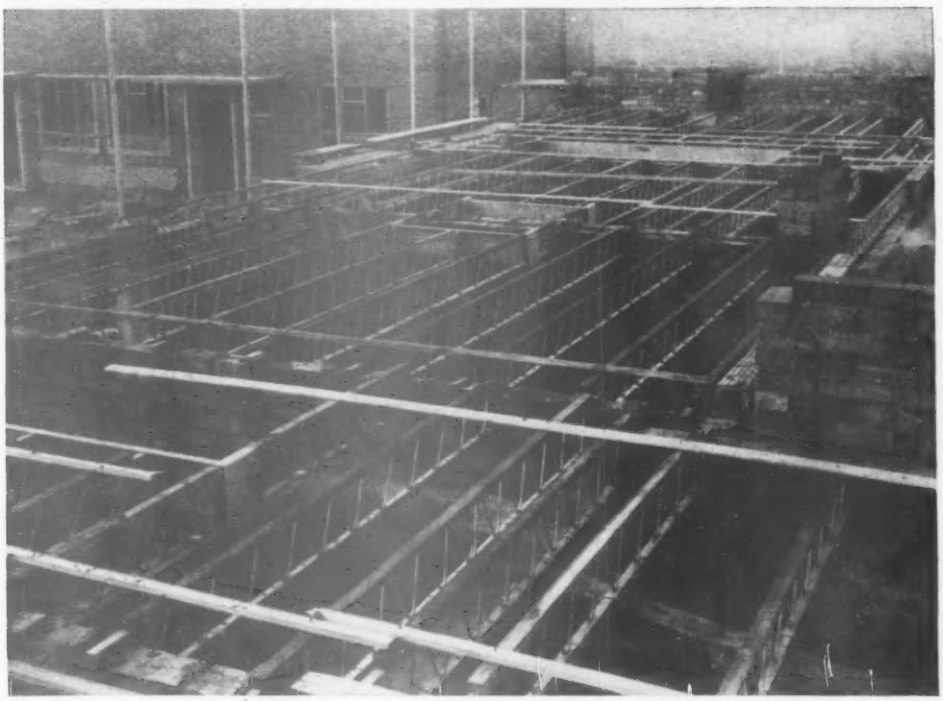
Presweld construction in War Memorial village at Derby. Honorary Architect: Thos. W. East, F.R.I.B.A.



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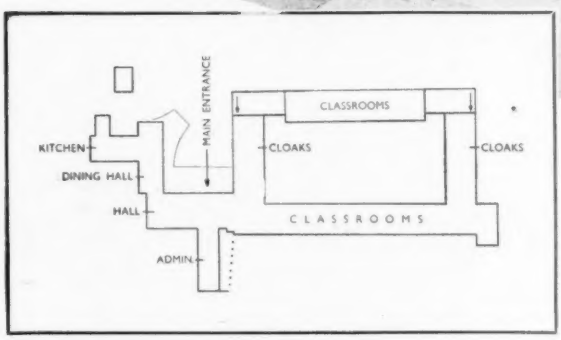

WEXHAM ROAD SCHOOL, SLOUGH
(For Bucks County Council)
County Architect: *F. A. C. Maunder, R.S., Dip. Arch., F. R. I. B. A., A. M. T. P. I.*
Contractor: *A. Roberts & Co., Ltd., Victoria*

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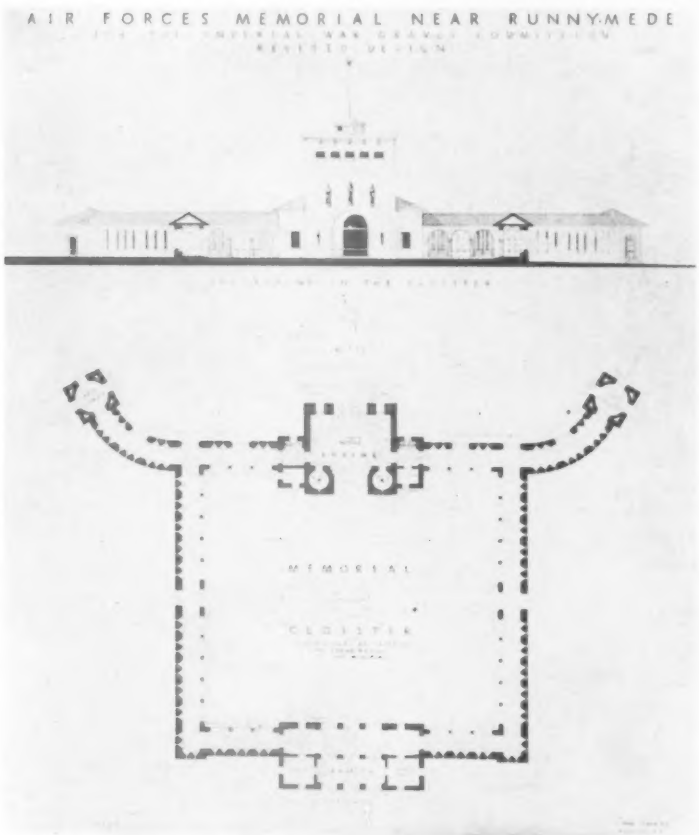
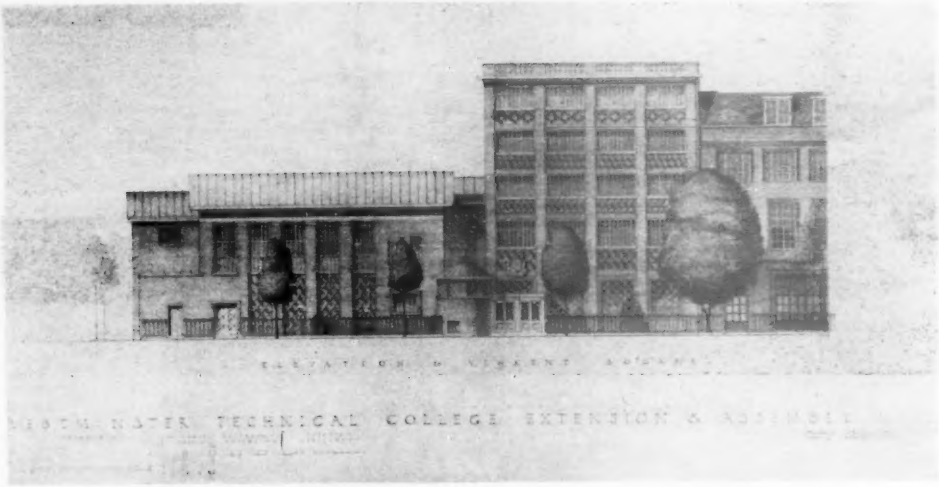
The Ridgeway Hotel, Lusaka—model. Architect: G. A. Jellicoe.



Air Forces Memorial, near Runnymede. Architect: Edward Maufe, R.A.
Draughtsman: G. E. Cassidy

ARCHITECTURE AT THE ROYAL ACADEMY



Westminster Technical College: Extension and Assembly Hall. Architect: H. S. Goodhart-Rendel. Draughtsman: J. Raymund Binns.

Design for the new Warden's Lodgings, Merton College, Oxford. Architect: Raymond Erith. Painting in oils by John Aldridge.

ARCHITECTURE AT THE ROYAL ACADEMY

CURRENT NOTES ON PLANNING BY "E. & O. E."

Hostels. III.

Sleeping accommodation

It has already been stated that most hostels are to a greater or less degree affected by legislation; the overcrowding requirements of section 57 and the Fifth Schedule of the Housing Act 1936 and Section 10 of the Housing Act 1949 may be assumed to control minimum floor space for all sleeping rooms in hostels, except those which should be controlled by the Ministry of Education regulations for schools. 50 sq. ft. is thus the smallest space per person required in a domitory and 70 sq. ft. should be the area allowed for the smallest bedroom; some dormitories for juveniles have been planned on an allowance of 40 sq. ft., but this would seem to be undesirably small.

If bedrooms are designed to accommodate more than one person 110 sq. ft. should be the minimum for two adults and 160 sq. ft. for three adults. For any hostel, other than those to be let at the lowest rentals, these minimum areas can well be increased considerably and it will be found that single rooms at 95 to 100 sq. ft. are often required, inclusive of fixed furniture or fittings such as cupboards.

When, however, bedrooms are to serve as bed-sitting rooms, especially if they are to be occupied for long periods as in students' hostels, floor areas should be calculated at not less than 110 sq. ft. per person and are better if taken in the 120 to 140 sq. ft. range. Double bed-sitting rooms should be at least 200 sq. ft. in area; it is important, however, the minimum room-widths are considered in association with the floor areas mentioned above, so that single rooms should be at least 8 ft. wide (better 10 ft.) and double rooms at least 12 ft., if adequate allowances for furniture and comfortable lay-outs are to be provided.

The amount of privacy in bedrooms depends largely on the amount of rent the occupier is willing to pay; although in some hostels for young adults, especially females, there are indications that there is a preference for sharing rooms with friends; when rooms are shared it is often required to provide for a minimum of three persons. The maximum number of persons in a dormitory should not generally exceed 20 and smaller numbers are to be preferred.

Sleeping accommodation also varies considerably according to the type of resident and his or her vocational activities. Dormitories are usually required in common lodging-houses, some industrial hotels, children's hostels and those for juveniles. Dormitories divided to form cubicles by means of curtains or by more permanent or semi-permanent partitions are widely used in lower rental types. Large bedrooms, shared by a small number of persons, are also widely used in hostels attached to factories and shops and for similar types of lower-paid office workers although there appears to be an increasing tendency towards the provision of cubicles or single rooms even in these latter types. The hostels in the higher rental groups usually provide separate rooms although occasionally these are designed as rooms for two persons. As rentals increase bed-sitting rooms become more general.

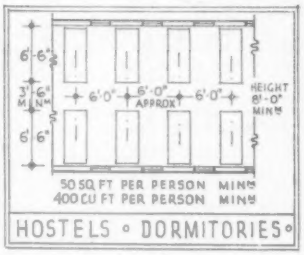


Fig. 5.

In hostels attached to educational establishments single study-bedrooms have become almost universal but a few double-rooms are sometimes included; in both high-rental types and university hostels there is often a demand for bedrooms and sitting rooms or studies to be separate rooms and designed as a suite. Separate bedrooms are desirable in old people's hostels and in such projects some rooms or flatlets may be needed for married couples.

It should be emphasised from the outset that the type of sleeping accommodation and the constructional spans involved to provide it economically, have a very considerable effect on the planning of the building as a whole; in other words, the layout of upper bedroom floors tends to dictate the spans available for, and therefore the planning of, the common rooms on lower floors.

Dormitories

Open dormitories are likely to be needed, as already stated, in certain types of hostel. It will be seen from Fig. 5 how 50 sq. ft., the normal minimum floor area per person, can be set out. More area, however, is desirable if adequate space is to be provided between beds for circulation and for some storage accommodation. The minimum air-space per person should be 400 cu. ft., with a minimum height of 8 ft. The sizes set out for dormitories in boarding schools (see section on "Schools" in "Planning", 6th Ed. (1950)) are, perhaps, a better standard and, in any case, dormitories for children should follow the requirements there detailed.

The use of dormitories raises problems of storage for clothing and other personal property and, in addition, dressing tables may be needed. It is desirable in all dormitories to provide a bed-side locker or alternatively a dressing-chest and either may be built-in fitments. Dressing tables or chests at the rate of one per person can be provided at the end of the dormitory room, in the central gangway where there is sufficient width, or adjacent to each bed where the layout permits. Facilities for hanging clothes can be provided by wardrobe cupboards at the ends of the room or in a separate locker-room

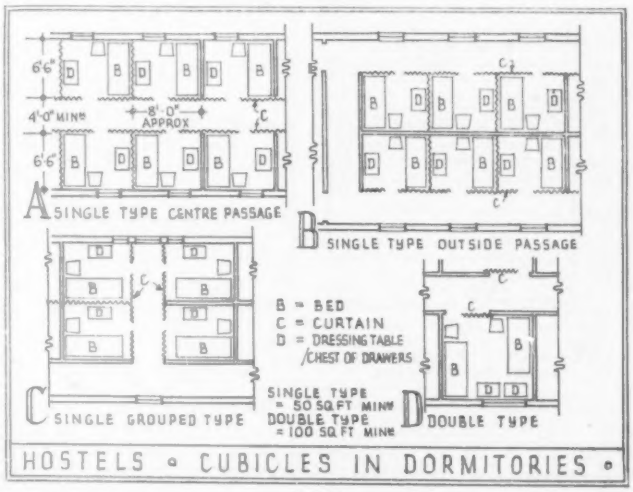

6'6"
4'-0" MIN.
8'-0" APPROX
6'6"
A SINGLE TYPE CENTRE PASSAGE
B SINGLE TYPE OUTSIDE PASSAGE
C SINGLE GROUPED TYPE
B = BED
C = CURTAIN
D = DRESSING TABLE /CHEST OF DRAWERS
SINGLE TYPE = 50 SQ. FT. MIN.
DOUBLE TYPE = 100 SQ. FT. MIN.
D DOUBLE TYPE
HOSTELS ◦ CUBICLES IN DORMITORIES ◦

Fig. 6.

adjoining the dormitory. Except in children's dormitories, a chair at least should be provided for each bed. In better types of hostels care should be taken that the placing of artificial light makes it possible to read in bed without inconveniencing adjoining occupants. Windows should give rooms that are well-lighted and well-ventilated; it is important that opening positions are close to the ceiling and any opening portion should be designed to eliminate side draughts.

Dormitories divided into cubicles with permanent part-height partitions, curtains or a combination of the two are needed in many hostels. This type of accommodation may be planned in a variety of ways as shown in Fig. 6. Type A shows a dormitory occupying the full span and may be as little as 17 ft. wide. Whatever span is used, the cubicle widths should not be reduced below 7 ft. and 8ft. is better to give sufficient space for furniture and comfortable movements of the user. If tall hanging-cupboards are provided in each cubicle it is better that partitions are used in preference to curtains and this has some bearing on the type of bed-layout used. In plans of Type A, partitions are often used between units and curtains only to form the central passage division. A window should be provided for each cubicle in this type of plan.

Type B (Fig. 6), showing beds grouped in the centre of the dormitory, has the advantage that beds do not come immediately under windows, there is less likelihood therefore that windows will be closed and thus cut-off cross ventilation. Open dormitories are also planned on this arrangements of beds with a dwarf bulkhead partition, about 5 ft. to 6 ft. in height in the centre of the room into which the beds and dressing chests between the beds can be recessed. In Type B it is better that the central division is always partition rather than a curtain. This type, it should be noted, calls for wider spans than Type A owing to the double passageways. It is undesirable that solid partitions are used at the front of this type of cubicle as the air circulation may be reduced excessively thereby. It will be noted also that greater latitude in window spacing is possible with Type B.

Type C is a development of grouped beds, in which the passageway is kept to one side of the room and the beds are planned parallel to the length of the room; this avoids beds facing windows. This type is best with partitions across the room and curtains parallel to the outside walls, to avoid the central cubicles being too dark or badly ventilated.

Type D shows a form of double cubicle formed entirely with 6 ft. high partitions, with curtains used at the entrance to each compartment. This is slightly more economical in floor space as the dressing space may be reduced a little. When this type is used the curtained entrances should be staggered as shown.

Another type, often used, is to form small cubicles, with doors, exactly similar to single bedrooms as shown in Fig. 6, Type A or Type D, but to take divisions to a height of only 6 ft. 6 in. or 7 ft. instead of up to the ceiling.

Where solid partitions are used the materials used should be reasonably fire-resisting. Partitions should be at least 6 ft. high and the room height such that there is a clear 2 ft. above them. Partitions are often kept 4 to 6 in. clear of the floor, except at structural supports, to facilitate cleaning.

Fig. 7 shows two types of "open" dormitory for various kinds of school or similar establishments and for seasonal buildings such as agricultural hostels. Type A is arranged to give 80 sq. ft. per person with two beds in each bay on each side of the wing or span and Type B shows six beds per compartment, two on one side and four on the other, arranged to provide the minimum area of 50 sq. ft. per person.

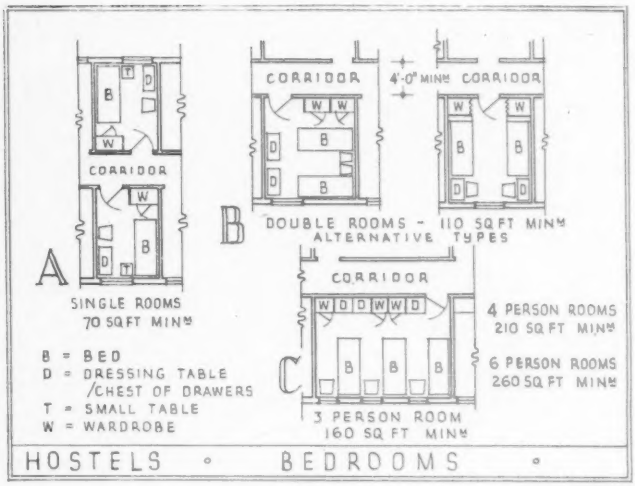


Fig. 8.

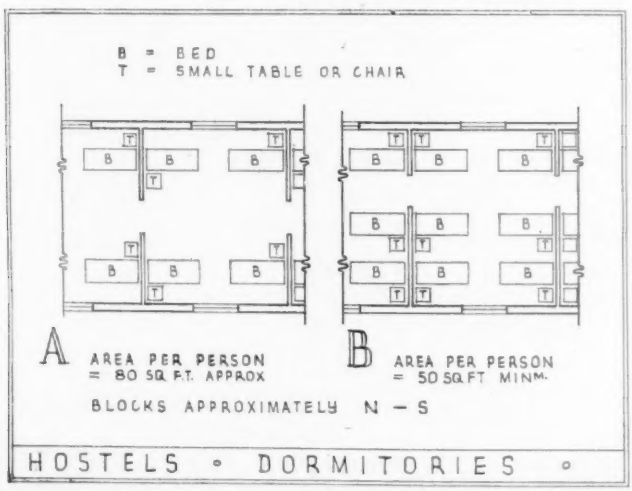


Fig. 7.

Bedrooms

Fig. 8. illustrates types of separate bedrooms. Diagram A shows minimum-sized bedrooms on either side of a common corridor. Corridors serving bedrooms should not be less than 4 ft. wide for comfortable circulation and for handling baggage and furniture and the width should be increased when longer than about 30 ft. Double doors have to be accommodated to cut-off stairs, etc. Doors to rooms on opposite sides of a corridor should be staggered and not be opposite to one another. It will be seen that with a minimum amount of furniture, namely a single bed, bedside table, dressing chest, hanging cupboard and a chair, very little movement space is left for the occupier in an area of 70 sq. ft. thus an increase over this minimum should be provided whenever

possible. In such small rooms it is of first importance to place windows and doors carefully so as to leave adequate space for the bed and positions other than in the centre of the rooms are generally advantageous. Except in very low rental types allowances for bed-spaces should be 6 ft. 6 in. by 3 ft. Whenever possible beds should not have a long side against a wall as this complicates bedmaking. Bedside tables should be based on 14 in. by 14 in., dressing chests on 3 ft. by 18 in., wardrobes or hanging cupboards on 2 to 3 ft. by 18 in. deep (they are better 22 in. deep) and chairs should be assumed to be 18 in. by 18 in.

Diagram B shows two alternative plans for minimum-sized two-bed rooms; the one with the beds along the division wall and the other with the bed-heads against the division wall. In each example the windows and doors are planned in relation to the placing of the beds in the room. Again it will be seen that the minimum floor space of 110 sq. ft. is very small for comfort and should be increased whenever possible in order to permit of the full quota of furniture for each person being installed as recommended above for single bedrooms.

Diagram C illustrates a room for three beds based on the minimum floor area of 160 sq. ft.; this permits only a minimum amount of furniture and it is forced into positions which are bad in relation to daylight and windows.

It is advantageous to plan wardrobes, whether loose or built-in, against corridor walls as they help to reduce the incidence of noise from corridor traffic. In many schemes fanlights are required over room doors so as to light and ventilate the corridor; it is, however, better to avoid these in order to reduce noise and also continually burning artificial corridor lighting may be disturbing to the occupants of the bedrooms. As the corridors are likely to serve as the main means of escape in case of fire, fanlights, when used, may be required to be fixed and glazed with wired glass, in which circumstance corridor ventilation must be obtained in other ways, for example, at the ends or by means of occasional bays opening on to windows and the open air.

Study-bedrooms and Bed-sitting rooms

Fig. 9 shows three typical study-bedrooms or bed-sitting rooms based on minimum floor areas for comfortable occupation. These rooms should be laid out to provide space for the following furniture in addition to reasonable circulation space: Bed (6 ft. 6 in. by 3 ft.); desk or writing table, 3 ft. by 2 ft.; 3 ft. run of bookshelves 9 in. deep; a single chair (18 in. by 18 in.); easy chair (2 ft. by 2 ft.); dressing chest (3 ft. by 18 in.); wardrobe or hanging cupboards full height of room (3 ft. wide by 22 in. deep inside). In many schemes it is necessary to plan also for the provision of a fire; this is now generally either electric or gas operated either with or without slot-meters. In most modern schemes, however, a central heating installation can be assumed for this type of scheme, at any rate for background heating. Room must, therefore, be found for the necessary radiators and if the latter are only to provide general background heating, space must be allowed for an electric or gas fire in addition.

Diagram A shows a single room in which windows and doors are kept to one side to avoid the bed and also to provide good working light for the desk table. The minimum area is about 110 sq. ft.

Diagrams B and C illustrate two plans for double-rooms both based on minimum floor areas of 200 sq. ft. Diagram B is based on using a wide frontage and narrow span whereas Diagram C is based on a much wider span; the former provides better rooms from the point of view of the individual users but may be difficult and costly to superimpose upon accommodation to be planned on the lower floors, as well as requiring proportionately long corridors and extended runs of services. A small but important matter connected with hostel bedrooms is the accommodation for damp towels, as these usually remain in the care of the individual users and are consequently kept in the bedrooms and not in the lavatories; rooms should therefore be provided with a towel rack or rail in such a way that the dampness does not cause damage to furniture or decorations. Where hot-water radiators are installed a towel-rail can be combined therewith.

Care should be taken to design wardrobes and cupboards properly to suit the alternative needs of men or women; such fitments are likely to be the main clothing storage space provided for the occupants. Cupboards should have some permanent ventilation and be designed on the recommendations given in the section of "Housing" in "Planning" (6th Ed. (1950)).

Careful consideration should be given to the planning of artificial lighting so that adequate light is available at desks, at the bed-head, and for the general lighting of the room.

Suites

Where suites of rooms are required these should be planned on the recommendations given in the section on "Small Flats" in "Planning" (6th Ed. (1950)). Bedrooms may lead directly out of sitting rooms, but on no account should the approach from outside the suite be through the bedroom to the sitting room.

Staff Bedrooms

These should be planned well away from the general hostel bedrooms, or be cut off therefrom, and preferably approached by way of separate service staircases. This accommodation may take the form of dormitories or be provided in double or single rooms (see also "Planning," 6th Ed. (1950), sections on "Hospitals," "Hotels," etc.).

Sick Room

Provision should be made in all types of hostel, except perhaps in those with only single rooms, for residents with minor illnesses which do not require removal to a hospital. Single or double bed wards or sick-bays are usually provided at the rate of about one bed per 50 residents. The rooms should be rather larger than the normal single hostel bedroom and therefore about 100 sq. ft. for single rooms and 180 sq. ft. for two-bed wards. The wards should provide at least 800 cu. ft. of air space per bed and beds should be planned to be at least 6 ft. apart. Sick rooms are generally planned near the sleeping accommodation of whoever may have to look after the patients, e.g., matron, warden or housekeeper. Sick rooms should have separate service and sanitary facilities comprising bathroom, w.c., kitchenette and H.M.C. and a small storeroom.

In hostels for children the sick room accommodation should follow that detailed for boarding schools in the section on "Schools" in "Planning," (6th Ed., (1950)).

(*To be continued next week*)

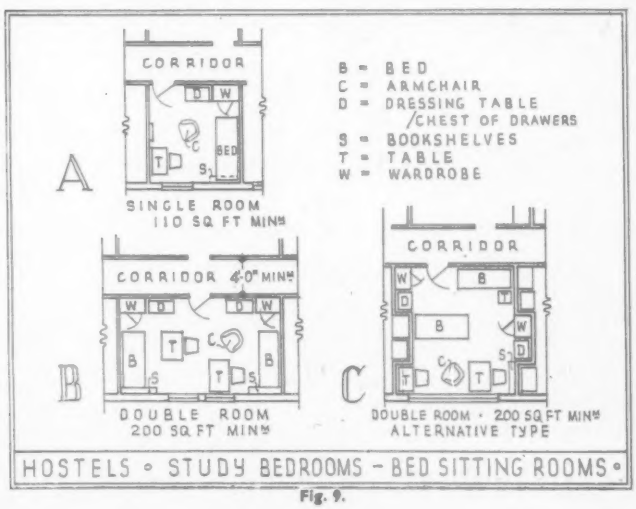


Fig. 9.

News of the BUILDING INDUSTRY

INTEREST

AN URGENT CALL to the builders of London to mark the opening of the Festival of Britain by dedicating themselves afresh to the service of their industry was given by Mr. Dudley E. Cox, President of the London Master Builders' Association in a speech at a luncheon of the South-Eastern Area at Bromley. Mr. K. J. Peacre, Chairman of the Area, presided.

The opening of the Festival of Britain is a great occasion, said Mr. Cox, for the Festival itself is one in which the building industry and our members have played a very considerable part.

With this in mind, let us look at this building trade of ours. Are we satisfied that individually we are doing for it all that we should?

We have received much from the past. Are we handing on as much? Are we individually giving something to our great trade that is apart from our private gain? Are we training our young men properly for their future?

Many of you do much now; I say to you increase, double and treble your effort.

There is no way in which you can give better proof of your earnestness than by supporting the call to take the maximum number of apprentices who in years to come will be the bearers of the banner of true craftsmanship.

*

THE MINISTER OF WORKS, the Rt. Hon. George Brown, M.P., has appointed Mr. A. W. Cunliffe, M.B.E., as his Principal Private Secretary, and Mr. K. P. Leary as Assistant Private Secretary.

*

AN ADVISORY COMMITTEE for the Scottish Laboratory of the Building Research of the Building Research Station, has been set up under the Chairmanship of Mr. Lockhart W. Hutson, O.B.E., F.R.I.B.A., F.R.I.A.S., to ensure that the work of the Laboratory serves the special requirements of Scotland and also help to link it closely to the Scottish building industry.

Members of the Advisory Committee are: Mr. J. Banks, O.B.E., M.I.C.E.; Mr. J. Austen Bent, A.R.I.B.A., A.M.T.P.I.; Mr. C. Brownie, Secretary of the Scottish Regional Council of the N.F.B.T.O.; Lt.-Col. Alexander Cullen, O.B.E., County Architect of Inverness; Mr. John Lawrence, Chairman of the Scottish Housing Group; Mr. G. L. Orchard, F.R.I.C.S.; and Mr. W. H. Wylie, a Director of Alexandra Transport Co. Ltd., manufacturers of building materials.

The Scottish Laboratory of the Building Research Station was set up in 1949 to extend the scope of building research by studying conditions, materials and practice in Scotland and the North of England. It is responsible for making the knowledge and facilities of the Building Research Station more readily accessible to the building industry in these areas.

*

THE COUNCIL FOR CODES OF PRACTICE for Buildings has now issued in final form Code 314, "Design and Construction of Ducts for Services." The Code deals with the design and construction of all forms of ducts for the accommodation of pipes, cables, etc., within and adjacent to buildings. With regard to preliminary exchange of information, the importance of early and thorough co-operation between the various parties concerned is stressed—especially with a view to the possible future extension or alteration of the services required.

*

MINISTRY OF WORKS NEW ADVISORY LEAFLET No. 15 deals with "how to pick the right sand for the job" for plasters, mortars or renderings. The leaflet gives simple tests for impurities which can be made on the site.

*

THE DIRECTORS OF WATES LTD. have arranged for a series of dinner-time film shows to take place on sites on which the company are operating so that the operatives on these sites can be kept abreast of the latest developments in building techniques. First showings have already taken place at the end of the dinner hour.

*

BUILDING BULLETIN No. 4, published for the M.o.E. by H.M. Stationery Office, price 1s. net, describes a new method of studying school building costs. The Minister asks authorities to give this method a trial and to send him their comments. The Bulletin deals with cost analysis and cost planning.

THE COUNCIL OF THE BRITISH WELDING RESEARCH ASSOCIATION have gratefully accepted an offer from the British Oxygen Company Limited to provide a Prize Fund for a competition relating to welding for three years.

A single prize of £100 is offered and will be awarded for the best paper submitted on a research into welding or its application.

*

WORK IS TO BEGIN shortly on the new Scottish Agricultural Industries Ltd. sulphuric acid plant at Aberdeen. Messrs. W. J. Anderson Ltd., of Aberdeen, have been given the civil engineering contract on the new project.

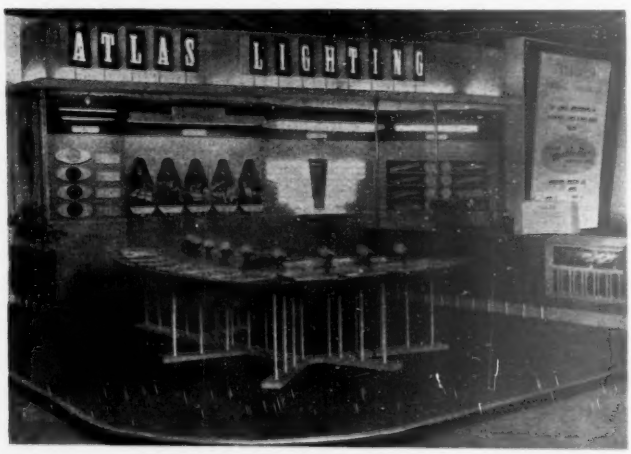
S.A.I. plan to erect here a modern plant for manufacture of 37,000 tons of 100% sulphuric acid annually, at a cost of £410,000. The plant will be the most modern of its type in Great Britain and is part of the programme of enabling manufacture of fertilisers to proceed with independence of imported sulphur.

ROYAL FESTIVAL HALL ACOUSTICS

On the facing page there begins the first of a series of articles dealing with the acoustical treatment of the Royal Festival Hall Auditorium. These articles show the relationship of the materials and finishes in the auditorium to the acoustic requirements.

The first article is general in character with a specially written comment by Hope Bagenal. Succeeding articles will give details of the ceiling, the canopy, the panelling of various types, etc.

The main structure will be separately dealt with.



The stand of Thorn Electrical Industries Ltd., at the B.I.F., Castle Bromwich, designed by Peter Bell, M.S.I.A. and Harding Dunnett.

This is the first of a series of articles dealing with the acoustics and materials of the auditorium in the Royal Festival Hall. In the following pages the general acoustic principles and layout are described and the reader will see how the main reflecting and absorbent areas are disposed.

In succeeding articles details of the ceiling, the canopy, the boxes and various types of panelling will be illustrated with a description of the methods of construction and materials used.

On this page is a general view from the balcony showing the general lighting (installed by the General Electrical Co. Ltd.). Details of the building other than acoustical treatment will be the subject of a separate article in the June 1st issue. This view shows the temporary screen behind the orchestra, which masks the space to be filled later with the organ. Note also the marble floor reflector in front of the low orchestra platform.

THE ROYAL FESTIVAL HALL

ACOUSTICS AND MATERIALS (1)

Acknowledgements.

The design of the Concert Hall was carried out by a team. Mr. Robert Matthew (Architect to the Council) and Dr. Leslie Martin (Deputy Architect to the Council) took the responsibility for planning and design in all its aspects: Mr. Edwin Williams, Senior Architect-in-Charge, carried the responsibility of co-ordinating the work in the office and on the site: Mr. Peter Moro, Associated Architect, specialized in the design field throughout the main building work.

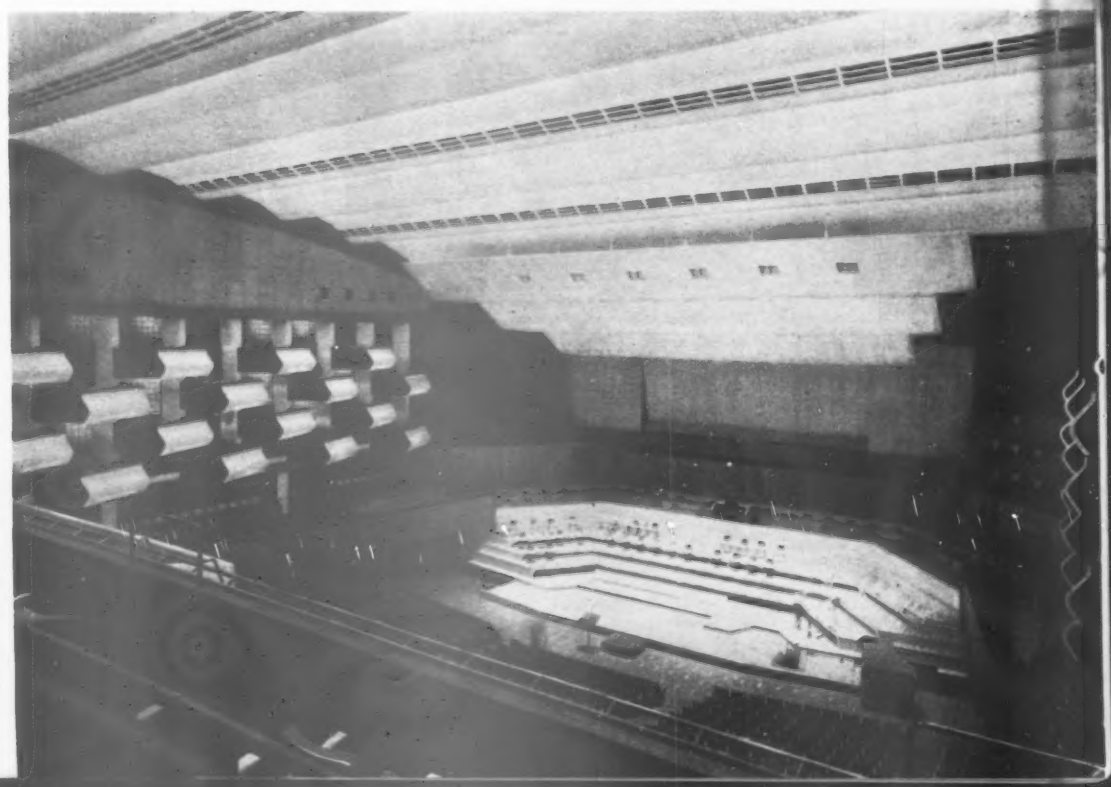
The Acoustic Consultants were Mr. Hope Bagenal and members of the staff of the Building Research Station (Department of Scientific and Industrial Research).

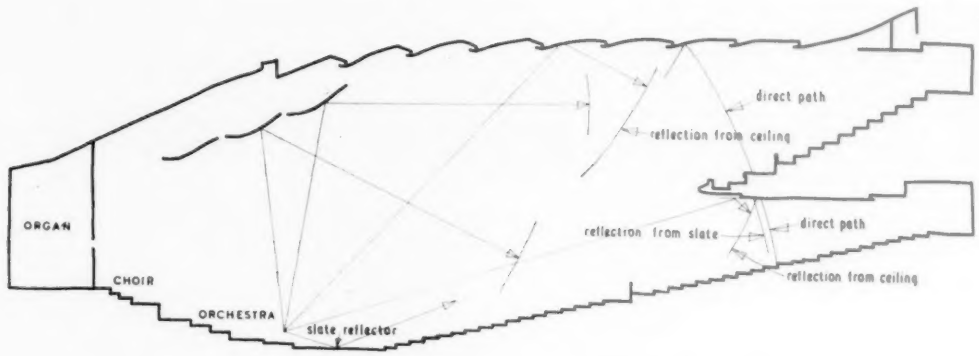
Consulting Civil Engineers were Messrs. Scott and Wilson. Boilers and electrical work were installed under the supervision of Mr. J. Rawlinson, Chief Engineer of the L.C.C. Mr. R. Coe and the staff of the heating and ventilating section of the L.C.C. architects department were responsible for design and supervision of the heating and ventilation.

Messrs. Frank N. Falkner & Partners were the quantity surveyors. The organ Consultant was Mr. Ralph Downes.

The Architect's staff working on the scheme included A. Mackenzie, B. A. Le Mare, R. A. Laker: J. Ball, T. W. Bliss, J. S. Cousins, J. T. Dannatt, G. W. Dunton, Miss M. M. Forster, W. E. Greaves, J. F. Hammond, A. J. Hepworth, Mrs. M. Hurst, M. H. Kenchington, M. Le Pelley, A. J. Lyne, J. Mayo, P. K. Nicoll, F. L. Peatfield, C. F. Overy, P. J. C. Scott, J. W. G. Smith, G. Subiotto, G. F. Turner. The Clerk of Works in charge was T. W. Turner and Miss K. L. Gumbley was responsible for administration.

The Contractors were Messrs. Holland & Hannen and Cubitts, the Contract Manager being Mr. S. L. Reynolds, and the Site Agent Mr. Herbert.

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ORCHESTRA
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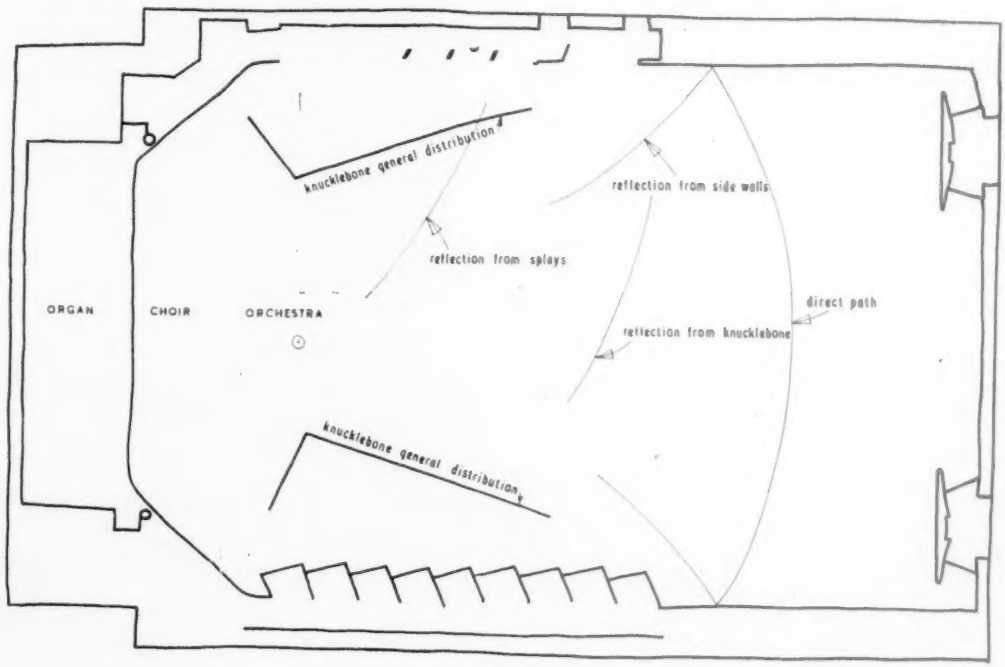
knucklebone general distribution
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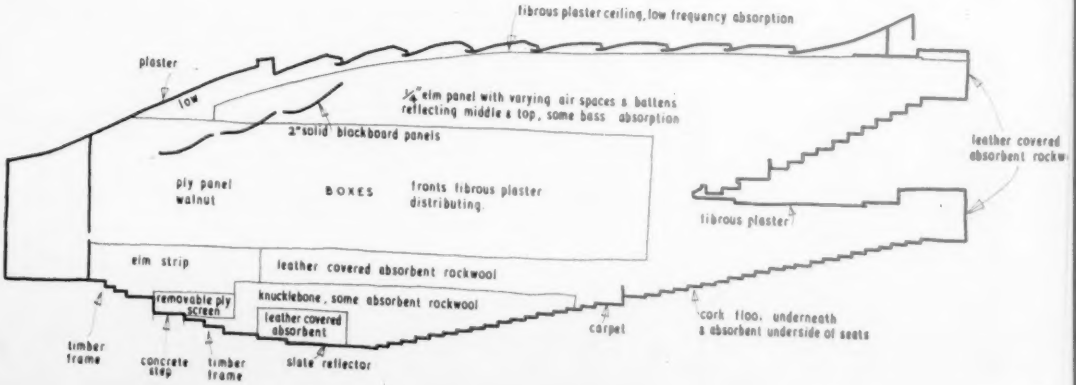
CHOIR
ORCHESTRA
direct path
reflection from knucklebone
knucklebone general distribution

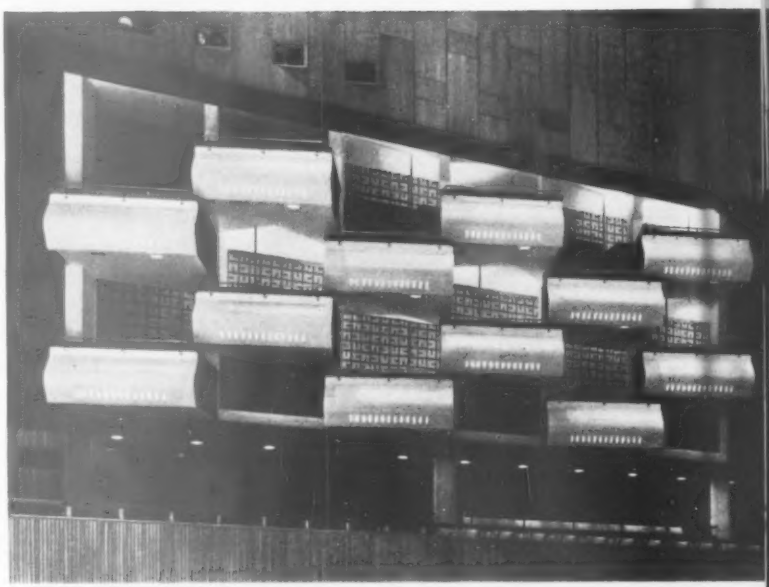

fibrous plaster ceiling, low frequency absorption
plaster
low
¼" elm panel with varying air spaces & battens reflecting middle & top, some bass absorption
2" solid blockboard panels
ply panel walnut
BOXES
fronts fibrous plaster distributing
leather covered absorbent rockw
fibrous plaster
elm strip
leather covered absorbent rockwool
removable ply screen
knucklebone, some absorbent rockwool
leather covered absorbent
carpet
cork floo. underneath & absorbent underside of seats
timber frame
concrete step
timber frame
slate reflector

THE ACOUSTIC DESIGN

By Hope Bagenal

First the concert hall had to be defended against considerable train noise from railway tracks on Charing Cross Bridge adjoining the site. The noise level from the nearest track was round about 100 db. at the west corner of the site. The Building Research Station advised at all stages and with their help noise was measured, risks assessed, and insulation designed and tested. The Railway Engineers made a very useful contribution by re-laying the tracks with carbon steel rails which reduced the sound-level by at least 10 db. Other risks were occasional sirens on the river, or passing aeroplanes. The building was conceived as an inner keep surrounded by light out-works apparently negligible but giving some defence in depth by bass absorption on ceilings and thick carpets on floors. The main walling of the keep consisted of two 10 in. concrete leaves truly dissociated through a height of 60 ft. by a 12 in. cavity lined with wood-wool on one side. The roof structure followed this principle. It caused structural problems ingeniously countered by the engineers, and integrated by the architects. In addition, measures had to be taken to baffle all doors, ports, air-intakes, so that the fortress should not be breached at any point, and also ensure that having achieved quiet we should not uncover fan noise and little songs from electrical equipment. The bridge noise is now inaudible, the powerful fans—very carefully designed by the L.C.C. heating and ventilating engineers—are only very faintly audible in one or two spots. Tube train noise can be just heard by persons having bass sensitivity. Neither fans nor tube approach the noise level often experienced in London halls and one result of the general low background is that musically the quietest passages can be well heard.

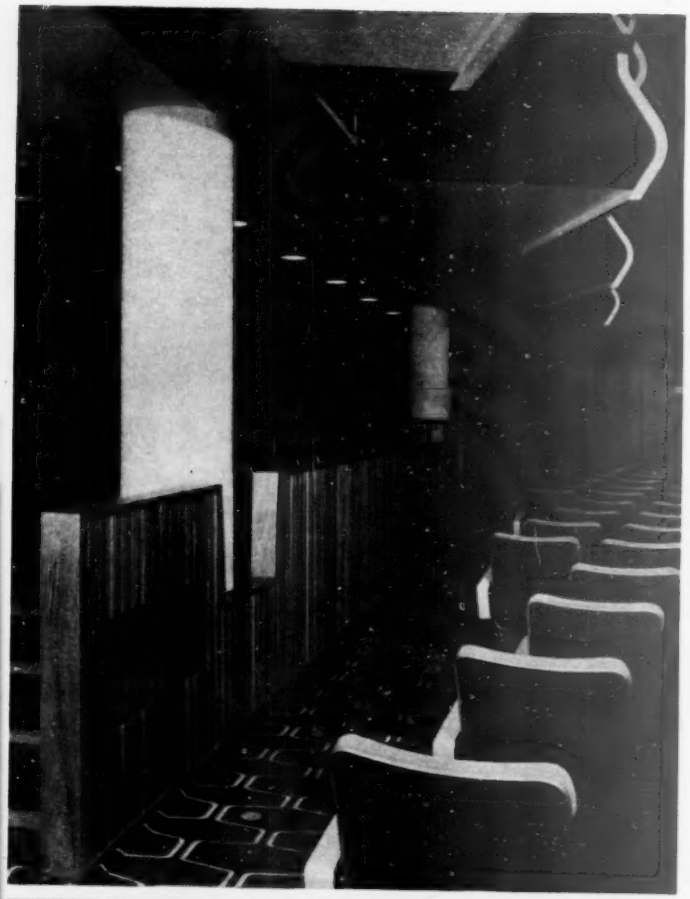
The auditorium design followed a certain course. A flat floor for dancing was not imposed and therefore a stepped floor-rake at a good angle was possible. This in turn enabled platform height to be reduced to a few inches instead of the common 4 ft. At one stage it was argued that we might have no "raised platform" at all and merely mark it out on the level, but it was thought well to define it by a relatively low step. This step platform does not do much geometrically (on section) for soloists and front strings but it does a very great deal for instruments behind. The higher you raise the platform and lift aloft the front row of players, the more you screen the body of the orchestra on the flat behind. But to lift the audience above the plane of the whole platform brings all instruments into view. Discussion here

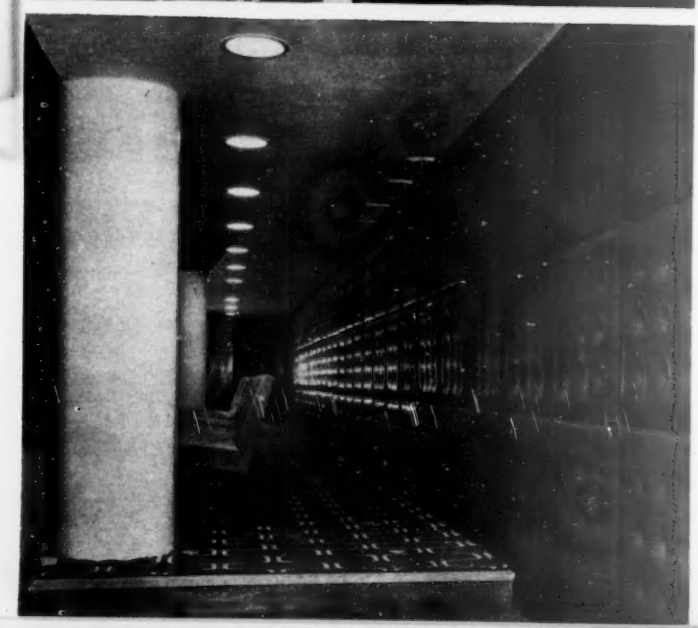


Illustrations on this page are: top, a general view from the orchestra end. This shows the rectangular shape and gives a good idea of the direct sound transmission paths.

Centre: the boxes. Fixed openings in the elm panelling above provide seven spotlight positions for use with ballet only. In addition five movable panels provide extra positions. At the back of the boxes the plaster walls are covered with red and white woven material. Details of the space below the boxes are on page 582.

Right: the balcony front and the ballet floods.





was complementary to our analysis of what caused good definition. In so large a hall with reflectors located beyond a certain distance it was thought that definition must largely depend on free paths for the direct sound from each instrument to all seats. Mr. Allen of B.R.S. stressed this point and called attention to the general inaudibility of violas and wood-wind on the flat (and often behind a grand piano) in normal halls. Hence the low-level platform we took as a design principle, adding to it the 12 ft. marble reflector extending in front, and the architects, who had musical experience of their own, were willing to accept it.

Another design principle accepted by them was the rectangular plan rather than the fan-shaped. The rectangle permits more inter-reflection and hence more chance of reverberation in a crowded hall. Also it does not ask aesthetically for the dangerous curves to seat-risers, parapets, gallery fronts, rear walls, which tend to focus return sound, and which do harm in modern design. By this means a major risk was cut out. But since in a hall so wide (110 ft.) the front side surfaces can cause "follow," or even echo, certain measures were taken for diffusing sound and the architects' ingenious "swallows nest" boxes (embodying as they do an ancient musical and municipal tradition) were one of the results. Echo is successfully eliminated.

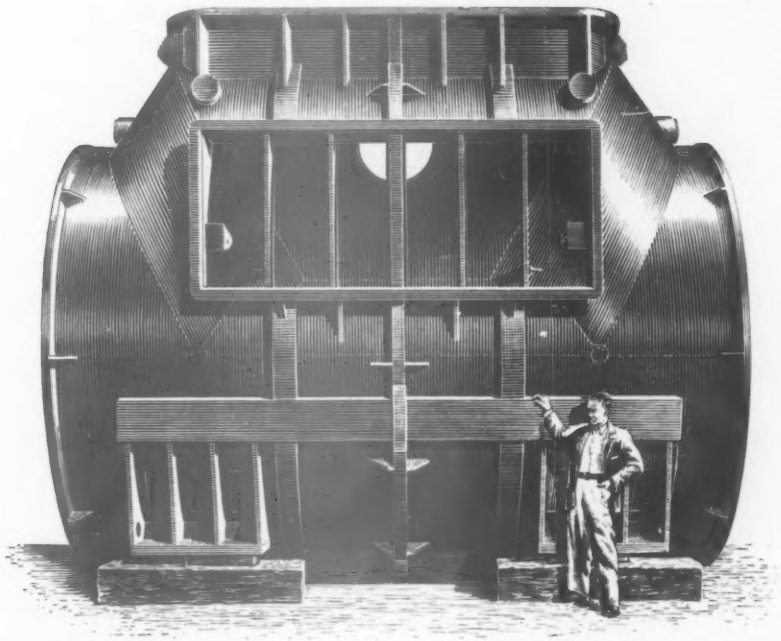
In seeking the right reverberation-frequency Curve our aim was influenced by the modern tendency to the flat line. The theory is roughly this :—Owing to economy, buildings are now low in height, and also very large seating requirements on a given site are insisted on. This means that cube per seat is relatively low and that middle pitch absorption is already very largely given by a full audience in upholstered seats. Where music is concerned the problem now is to push up middle pitch reverberation, not to keep it down. Bass absorption however may cause trouble, specially in concrete structure not giving tympanum absorption, and hence the extensive use of wood panelling in modern studio design. On the other hand at high pitch there are two factors in large halls which powerfully absorb namely normal matt surfaces with a dust layer, and the air. Hence the need for good areas of polished surfaces to reduce excessive absorption and increase reflection of "tops." The result is, for studios, therefore a Curve flat as to middle and "tops" with a permitted rise towards the bass of about 10 per cent. But in concert halls where the ear, and not the microphone, must come first the amount of bass is largely a matter of taste. Here the test concerts organised by the B.R.S. were valuable. Longer bass, and longer middle, was asked for. Bass absorption was then reduced and at the second concert the subjective effect of longer general reverberation and fuller tone was remarked

The seating at mid-stalls level running round the outside of the lower stalls beneath the boxes is shown in the two views left. The box-sides are faced with blue flock paper—for visual effect rather than acoustic reasons.

The reflection panelling around the back of the orchestra is continued round the stalls at this level—walnut for the fascia beneath the boxes and beech for the panelling of the balustrade. Flap down seats are set in the panelling.

The side wall of the auditorium at this position is faced with red leather absorbent panelling as shown in the lower picture.

It started 158 years ago



When the intricate curved sections of this power house condenser shell were swung together, the craftsmen of Thorncliffe who made them were proud, but not surprised, that the fit everywhere was to a decimal of an inch — a triumph of three-dimensional precision. Of immense size, the condenser is an outstanding example of electrically welded steel plate construction. It is a fine sight to see, an example of British workmanship at its best, and of what can be achieved by 158 years of inherited craftsmanship.

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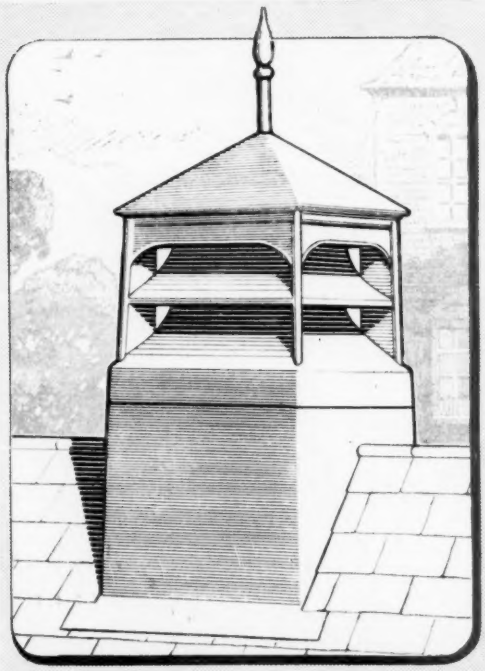

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upon. This looks as if the steeper bass-to-middle slope of the older halls was better. The reverberation (hall full) at middle pitch is 1.8 sec. In my opinion it could with advantage be up to 2 sec. or more. But this could only be had by fewer seats, wider uncarpeted gangways and floor areas, that is to say by more inter-reflection.

A point arises in regard to the ceiling. It is difficult to say how much a modern hung ceiling absorbs, in the bass by resonance, and in the middle pitch by vent and light openings. Yet it is, after the floor, the most powerful re-actor in any auditorium. Considerable research and fieldwork is required here by B.R.S. along the lines of their valuable listening tests plus scientific analyses of buildings having clear musical character.

The extensive polished areas give brightness of tone which is seen on test by the sustained level of the Curve at high pitch. This tends to counteract air absorption and to give definition at a distance. It is something new in this country and may not suit all tastes. But its advantages in a large hall must not be overlooked. In seeking the balancing of widely separated instruments, and the self-hearing of players the canopy was designed with surfaces part horizontal in order to return some sound on to platform. Its efficiency is reduced however by its height—made necessary by the extensive organ opening. Here, as elsewhere, there is some inevitable conflict between organ and instrumental requirements.

As to the main positive result I must point first to a certain musical character clearly achieved. Not only is there good definition as such—clean rapid playing heard in every seat, there is something more. It is the distinguishing of separate instruments in a complex modern orchestral work. Tone is not inexorably mixed, but with a slight effort of attention the listener can easily distinguish the component colours of the orchestral spectrum. This "spectrum definition" was particularly noticeable in Debussy's phrases, and in Wagner's themes. It gives pleasure to persons who know their instruments. It gives pleasure to some critics but not all. But it has an artistic reference; it means that the complex works of modern composers can be heard more as they were designed and not merely as a loud confused body of tone. But "blend" or "ensemble" is necessarily to some extent sacrificed, and this will not suit all tastes. But it springs directly from the principle of unobstructed sound paths clearly carried out in the building; it makes for a new musical hearing of modern works; it gives London an opportunity of hearing massive orchestration properly, and time should be given for musical taste to get accustomed to it.

H. BAGENAL.

The view of the main cross gangway at mid stalls level (top right) shows the specially manufactured carpeting designed by the architect to the L.C.C. The hearing aid plug sockets—fitted to certain end seats—can be seen in the arm of the nearest chair. Seat numbers are on the side of the arms.

The lower picture shows the cork flooring under the seats which are spaced at 2 ft. 7 in. back to back. The backs and arms are ply faced: undersides of seats are perforated to give absorption if not in use.

Gangways and edge strip of the auditorium floor risers are of teak, and beech nosings to the gangway treads to help vision.

GOOD, BAD OR INDIFFERENT?

No. 36—By A. FOREMAN

Quality of Bricks

WRITING the notes last week on the subject of brick sizes made me think that it would be worth calling attention to the quality of bricks as I do not think that enough attention is paid to the selection of them, whether they be of clay, sand-lime or concrete. The selection must be related to the situation of the building and more especially to the position in the building in which the bricks are to be placed. There are no standard specifications for facing or common clay bricks which can be used for the guidance of the selector, although there is a B.S. for engineering types, but there are agreed methods of testing clay bricks in B.S.1257 which are very helpful. If, when choosing bricks, there was more careful examination and comparison of the test results of those offered based on this B.S. there would be, I am sure, fewer bricks used in unsuitable positions. It is interesting to note that when tests are made in accordance with the B.S. the test sample comprises a fair number of bricks which is essential, as to test only one or two, as I have seen so often in architects' offices, may be quite misleading with many types of brick as, for example, porosity may vary greatly and the strength by as much as 1,000 lb./sq. in. on each side of the average. The differences in burning have a very considerable effect on the results obtained in a test. Banging two bricks together or to soak them in the office pail tells one very little about a large batch of bricks.

As far as I know there are few clay bricks sold to the building industry which should not be used at all, and the same remarks apply to bricks of other materials, but some of them are quite unsuitable for use in certain positions due to their conditions of exposure to the weather and to dampness. The quality of sand-lime bricks is clearly set out in B.S.187 and different qualities are given to suit the conditions to which they are to be subjected, similarly B.S.1180 gives grades for concrete bricks.

There are a number of positions where the greatest care in selection has to be given if failures are not to arise. Firstly for the footings and right up to the level of the dampcourse even where exposed above the ground as they are still liable to rising damp and to moisture splashing up on to them. Bricks buried in the ground are also liable to chemical attack from the earth against them. Other positions for care are any position where the bricks are exposed to dampness, particularly when exposed both sides, and where they are exposed to frost, when they may be wet. The bad positions are in parapet walls, chimneys, free standing walls and retaining walls. In all these positions the bricks should be of specially good quality; many types ordinarily suitable for facing between the d.p.c. and the eaves are found to be unsatisfactory for these more severe conditions. When using concrete or sand-lime types they should be "bricks for special purposes" grades according to the respective B.S. Clay bricks should have a very low soluble sulphate content. Personally I always recommend avoidance of parapet walls whenever possible because of the brick troubles and those of d.p.c's as there are so many possible causes of future troubles; not only is trouble possible unless very great care is taken but also they are costly to build.

The property of bricks which does not so far seem capable of evaluation by test is the resistance to frost following wet weather, as I have yet to hear of any reliable test being agreed; therefore, whatever other test information is available in relation to a brick sample it is necessary to ask where the type has been used for some time and then to examine them for any frost damage and form one's own opinion.

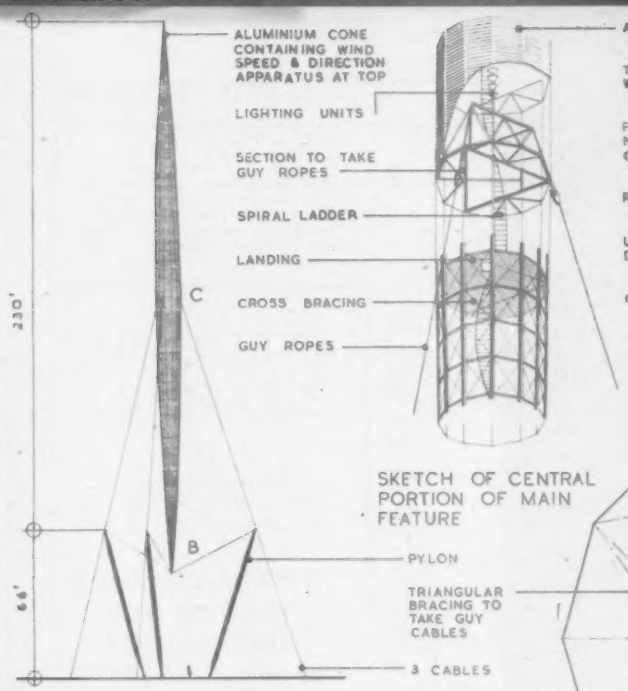
One of the most annoying features of clay bricks is the liability to efflorescence although much of this trouble can be avoided by proper selection from test results and avoiding those samples which have a high soluble salt content. Most bricks are liable to produce at least a small amount of efflorescence when newly laid but this soon disappears with good selection. The most troublesome matter is magnesium sulphate but I doubt that one meets this very often. A high sulphate content causes expansion and cracking of brickwork due to the mortar being attacked and this is likely to be most serious in positions where the bricks are likely to be very wet as in parapets and free standing walls, especially if the d.p.c's have not been properly placed or have been omitted.

If concrete bricks are used be sure, as is necessary for concrete blocks, that they are properly and thoroughly cured to avoid undue movement; this takes at least four weeks unless a special maturing process is used and if this care is not taken there may well be lots of subsequent cracking of the brickwork. Sand-lime bricks also need to have a very low drying shrinkage or similar troubles may be expected. A feature that I have noticed with sand-lime bricks is that they do not appear to show efflorescence, presumably because of the materials from which they are made. I am told however, although I have no experience, that it is unwise to use sand-lime bricks in positions where they may be subject to sea spray unless they are rendered. Under normal conditions the durability of sand-lime bricks seems to be directly related to their strength.

Personally I have very little experience of concrete bricks, except as fixing bricks, as I do not think very many are made. Concrete seems more generally to be used in the form of blocks.

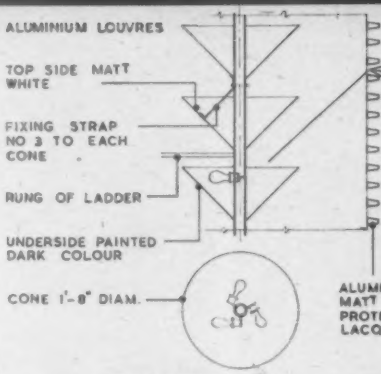
THE LOCKHEED FOUNTAIN

This fountain, at present in the Battersea Park section of the Festival of Britain, will later be transferred to Leamington in front of the offices of the Lockheed Hydraulic Brake Company Ltd., who constructed the fountain. The sculptor was Mr. Arthur Fleischmann.

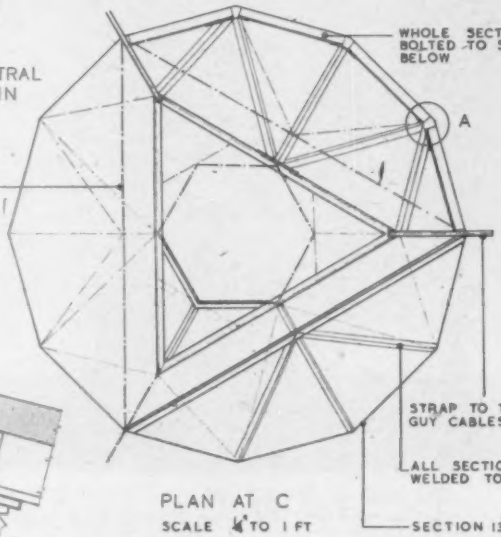


ELEVATION OF SKYLON

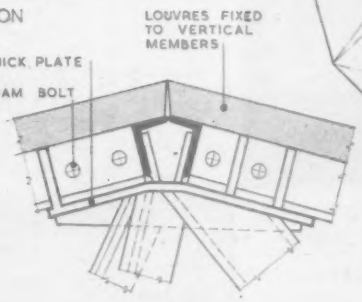
SKETCH OF CENTRAL PORTION OF MAIN FEATURE

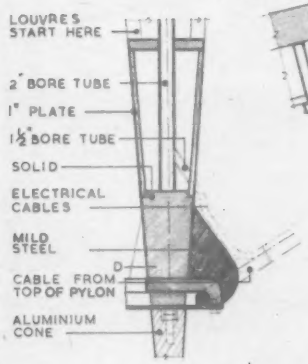

ALUMINIUM LOUVRES
TOP SIDE MATT WHITE
FIXING STRAP NO 3 TO EACH CONE
RUNG OF LADDER
UNDERSIDE PAINTED DARK COLOUR
CONE 1'-8" DIAM.
ALUMINIUM LOUVRES MATT FINISHED PROTECTED BY LACQUER

LIGHTING UNIT SCALE ½" TO 1 FT

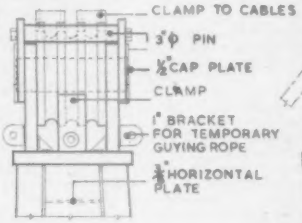


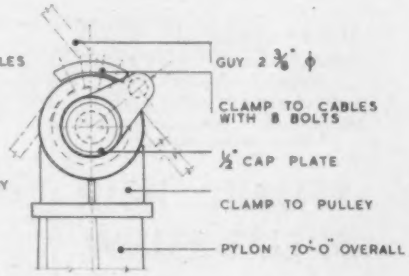
PLAN AT C
SCALE 1/64" TO 1 FT



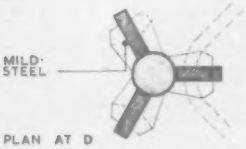


⅛ F.S. DETAIL AT A



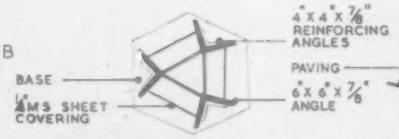


DETAILS OF TOP OF PYLON

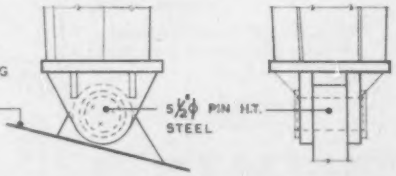


PLAN AT D

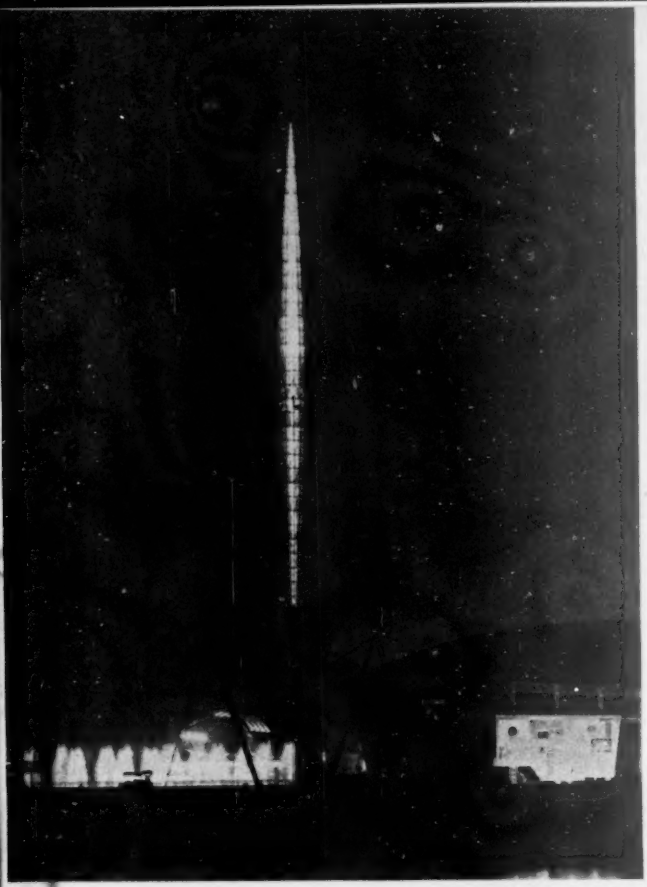
PLAN & SECTION AT B
SCALE ½ TO 1 FT



SECTION THROUGH PYLON



DETAILS AT BOTTOM OF PYLON
SCALE ½" TO 1 FT.



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*Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

BERKSHIRE C.C. (a) Adaptations at Sotwell Hill House, Wallingford, to provide aged persons' home. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2 Gns. (e) May 31.

* * *

BILLERICAY U.C. (a) 3 blocks of flats, 7 pairs of houses and 3 blocks of flats. (b) Council's Surveyor, Council Offices, (c) 2 Gns. (e) June 4.

* * *

BLANDFORD R.C. (a) 8 houses and 8 houses with a service road, site works and a block of 4 garages. (b) E. A. Down, 47 Boscombe Overcliff Drive, Bournemouth. (c) 3 Gns. (e) May 29.

* * *

BOGNOR REGIS U.C. (a) 13 pairs of houses. (b) Engineer and Surveyor, Town Hall. (c) 2 Gns. (e) May 28.

* * *

BRADFORD C.C. (a) Two new wings and boiler house at the Technical College, and two new schools for infants at Reevy Hill and Canterbury Avenue. (b) City Architect, Town Hall. (e) May 21.

* * *

BRADFORD C.C. (a) House and garage, Bouthwaite. (b) City Architect, Town Hall. (e) June 4.

* * *

BRISTOL C.C. (a) Alterations and extensions to Portway Girls' Secondary School. (b) City Architect, Eagle House, Colston Avenue. (c) 2 Gns. (d) May 22.

* * *

CUCKFIELD U.C. (a) 4 pairs of houses in Penn Crescent, and 1 pair of houses in Washington Road. (b) Council's Surveyor, Council Offices, Oaklands, Haywards Heath. (c) 1 Gn. (e) May 29.

* * *

DAGENHAM B.C. (a) 46 houses in 7 blocks, Woodlands Estate. (b) Borough Engineer, Civic Centre. (c) 2 Gns. (e) May 25.

* * *

DERBYSHIRE C.C. (a) Building, with internal fittings, water supply and drainage, to house 20 cattle at Stodhart Farm. (b) County Surveyor, County Offices, St. Mary's Gate, Derby. (c) £2. (e) May 28.

* * *

EASTBOURNE B.C. (a) (1) Adaptation of premises in Park Lane to form detached residence; (2) conversion of Thornwick, Selwyn Road, as children's home; (3) erection of 24 flats on Chatfield Estate; (4) conversion of stables at Boston House, Upper Carlisle Road, as living accommodation; (5) erection of new cafe and lavatories in Hampden Park; (6) adaptation of Bishopsbourne, Carlisle Road, for Chelsea College of Physical Education; and (7) extension of gymnasium in Gaudick Road for Chelsea College. (b) Borough Engineer, 2-4 Saffrons Road. (c) 2 Gns. each scheme. (d) May 21.

* * *

ELLESMERE U.C. (a) 36 houses, Oswestry Road site. (b) Council's Surveyor, 2 Willow Street. (c) 3 Gns. (e) May 31.

* * *

ESHER U.C. (a) Store, public shelter, boundary walls, etc., at Long Ditton Cemetery. (b) Engineer and Surveyor, Council Offices. (c) 1 Gn. (e) May 29.

* * *

GLAMORGAN C.C. (a) Primary school, Croeserw, Cymmer, Port Talbot. (b) County Architect, Glamorgan County Hall, Cardiff. (c) 2 Gns. (e) June 2.

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HASLINGDEN B.C. (a) 4 houses and 20 flats at Church Street, and a block of 8 flats at Bury Road. (b) Borough Engineer, Municipal Offices. (c) 2 Gns. (e) June 2. All or separate trades.

* * *

HAZEL GROVE AND BRAMHALL U.C. (a) 2 groups of 40 houses each on Bosden Fold Road site. (b) Housing Architect, 4 Wood Street, Bolton. (c) 3 Gns. (e) May 29.

* * *

HECKMONDWIKE U.C. (a) 18 houses, Dale Lane Estate. (b) Council's Surveyor, Council Offices. (c) 2 Gns. (e) May 30.

* * *

HERTFORD B.C. (a) Extension of bus station and waiting rooms at Corporation's Car Park to provide public slipper baths. (b) Borough Engineer, The Castle. (c) 2 Gns. (e) May 21.

* * *

ILKLEY U.C. (a) Offices and garages, Little Lane. (b) Council's Surveyor, Chantry Drive. (c) 2 Gns. (e) May 25.

* * *

ILKLEY U.C. (a) 10 houses and 4 flats, Menston. (b) Council's Surveyor, Chantry Drive. (c) 3 Gns. (e) June 1.

* * *

LINCOLN C.C.—PARTS OF KESTEVEN. (a) Alterations and redecorations to the Reception Centre, Hillview, 137 Dysart Road, Grantham. (b) County Architect, County Offices, Sleaford. (d) May 19. (e) June 2.

* * *

LIVERPOOL C.C. (a) Supply, erection and completion of 100 ft. long by 50 ft. wide single-storey steel-framed building, near Lake Vyrnwy, Llanwiddyn. (b) Water Engineer, 55 Dale Street. (c) 3 Gns. (e) May 28.

* * *

LONDON—EALING B.C. (a) 2 blocks of 76 five-storey flats, Northolt Grange. (b) Borough Engineer, Town Hall, W.5. (c) £2. (e) May 31.

* * *

LONDON—WALTHAMSTOW B.C. (a) Sports pavilion at Higham Hill Recreation Ground. (b) Borough Architect, Town Hall, Forest Road, E.17. (c) 2 Gns. (e) June 2.

* * *

LONDON—WOOD GREEN B.C. (a) Repair of war damage and decoration at the Refuse Destructor Buildings. (b) Borough Engineer, Town Hall, N.22. (c) 2 Gns. (e) June 4.

* * *

MAIDSTONE R.C. (a) 18 flats at Barming and 18 houses at Nettlestead. (b) Engineer and Surveyor, Council Offices, 26 Tonbridge Road. (c) 2 Gns. each site. (d) May 21.

* * *

MANCHESTER C.C. (a) Water valve houses at Greenbank, Kendal, and Mealbank, Kendal. (b) City Architect, Town Hall. (c) 1 Gn. (e) June 4.

* * *

MIDDLESBROUGH B.C. (a) 28 houses, 16 houses, 24 houses, Berwick Hills site. (b) Borough Engineer, Town Hall. (c) 2 Gns. (e) May 28.

* * *

MID-WALES POLICE AUTHORITY. (a) Police house, outbuildings and garage, with site works. (b) Clerk of the Authority, County Offices, Welshpool. (c) 1 Gn. (e) May 28.

* * *

MORPETH R.C. (a) 20 houses, Hadstone Estate. (b) Engineer and Surveyor, Council Offices, Dacre Street. (c) 2 Gns. (e) May 28.

* * *

N. IRELAND—ENNISKILLEN R.C. (a) (Group 5) 6 houses on Derryaghna site. (Group 6) 6 on Drumlaghy site. (Group 7) 6 on Monea site. (b) Messrs. James Donnelly & Sons, Darling Street, Enniskillen. (c) 3 Gns. (e) June 5.

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NORTHALLERTON AND ROMANBY JOINT BURIAL COMMITTEE. (a) Erection of crematorium adjoining the burial ground. (b) Clerk of the Committee, Council Offices, 72 High Street North, Northallerton. (c) 2 Gns. (e) June 2.

* * *

ORMSKIRK U.C. (a) 40 houses, Scott Estate. (b) Council's Surveyor, Council Offices, Burscough Street. (c) 2 Gns. (e) June 4.

* * *

PETERBOROUGH COMBINED POLICE AUTHORITY. (a) Pair of police houses at Fane Road and a pair at Welland Road. (b) Architect and Surveyor, Town Hall. (c) 2 Gns. (d) May 15. (e) June 4.

* * *

PLYMOUTH C.C. (a) 12 flats and 9 maisonettes. (b) City Architect, Seymour Road. (c) 3 Gns.

* * *

RUNCORN R.C. (a) (1) 4 pairs of houses, 3 blocks of 4 houses and a block of 4 houses off Greenfields Avenue. (2) 4 pairs of houses, 2 blocks of 4 houses and a block of houses off Weaver Road. (3) 2 pair of houses, 1 pair of houses and a block of 4 houses on Chester Road site. (b) Engineer and Surveyor, Castle Park, Frodsham, via Warrington. (c) 2 Gns. (e) June 4.

* * *

RUSHDEN U.C. (a) 6 flats, Windsor Road. (b) Engineer and Surveyor, Council Buildings. (e) June 4.

* * *

SCOTLAND—EDINBURGH C.C. (a) House at Rosebery. (b) City Architect, City Chambers. (e) May 26. Separate trades.

* * *

SHEFFIELD REGIONAL HOSPITAL BOARD. (a) Hospital block for mentally defective children at Caistor Institution. (b) Secretary, Lincoln No. 3 Hospital Management Committee, Harmston Hall, Lincoln, immediately. (c) £2.

* * *

SOUTHWICK U.C. (a) 32 houses. (b) Engineer and Surveyor, Town Hall. (c) 2 Gns. (e) June 6.

* * *

STAFFORD R.C. (a) 42 houses, and construction of roads, paths, sewers and water mains, etc. at Hixon site. (b) Council's Clerk, Council Offices, 7 St. Mary's Grove. (c) 3 Gns. (e) June 2.

* * *

STAINES U.C. (a) 80 maisonettes, Kingston Road, Laleham. (b) Engineer and Surveyor, Shortwood House, 240 London Road. (c) £5. (e) June 7.

* * *

STRETFORD B.C. (a) 5 garages at Highways Depot, Longford Road. (b) Borough Surveyor, Town Hall. (c) 2 Gns. (e) May 26.

* * *

***SWANSEA B.C.** (a) Preparation and construction for proposed new Fire Station. (b) Mr. Robert Hudson, Engineer and Surveyor, The Guildhall. (c) £5. (e) June 6. See page 33.

* * *

WARE U.C. (a) 23 houses (Contract No. 10); 24 houses (Contract No. 11). (b) Engineer and Surveyor, The Priory. (c) 3 Gns. (e) May 25.

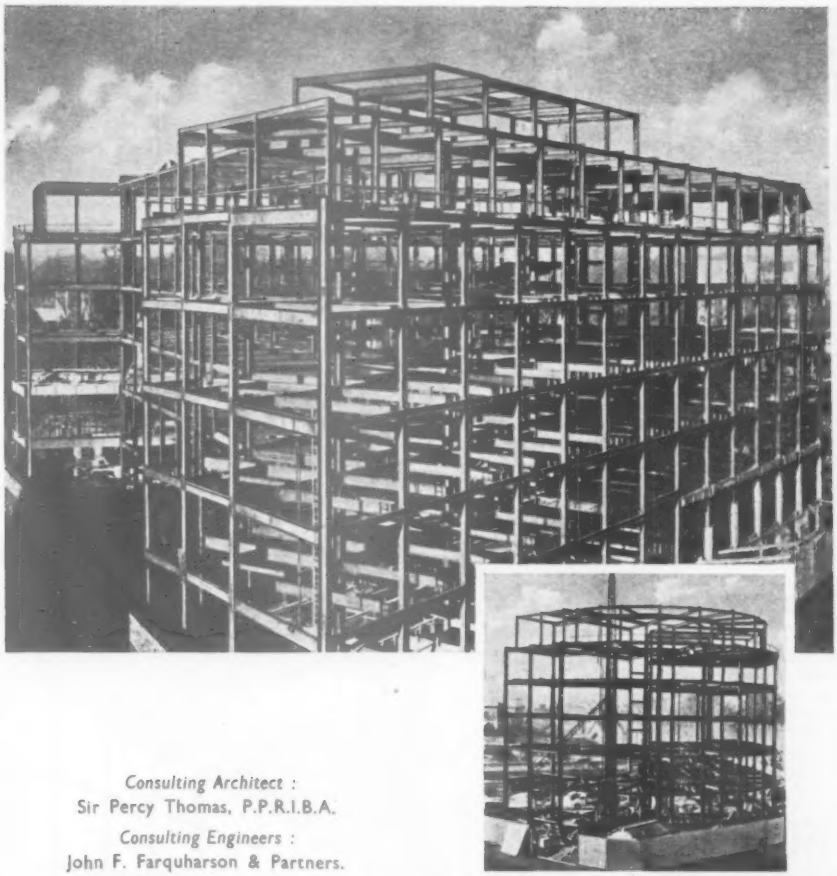
* * *

WEST RIDING STANDING JOINT COMMITTEE. (a) 5 pairs of police houses at Park Avenue, Harrogate; 1 pair at St. Andrew's Avenue, Harrogate; 1 pair at Eleanor Park Road, Harrogate; 3 pairs at Ash Road, Almsford Estate, Harrogate; 2 pairs and 1 house at Prospect Road, Starbeck, near Harrogate. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (c) 2 Gns. (e) June 1.

* * *

WOKINGHAM B.C. (a) 7 garages, Norrey's Barn Estate. (b) E. G. V. Hives, 3 Cork Street, Reading. (c) 2 Gns. (e) May 25.

STEELWORK



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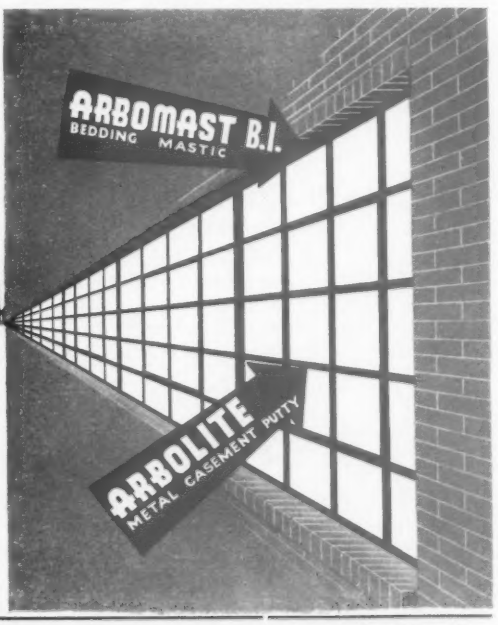

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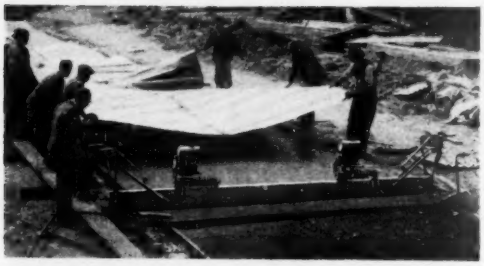

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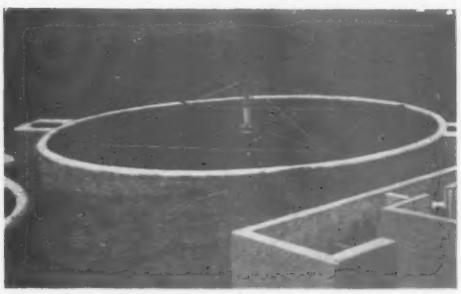

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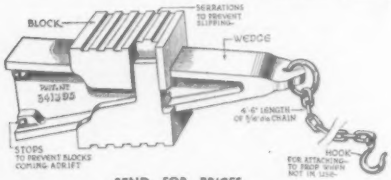
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APPOINTMENTS

BOROUGH OF WIDNES.

BOROUGH ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the appointment of an ARCHITECTURAL ASSISTANT as a salary in accordance with A.P.T. Grade IV of the National Scale of Salaries, commencing at the minimum of the grade.

Applicants must be Student R.I.B.A., and have worked in an architectural office for at least 2 years subsequent to having passed the Intermediate Examination.

The appointment will be subject to the National Scheme of Conditions of Service as adopted by the Council, and to the Local Government Superannuation, October 1937, and to the successful candidate passing a medical examination.

Applications stating full particulars of age, experience, and qualifications etc., together with the names and addresses of two referees, to be sent to the Borough Architect, Brendan House, Widnes Road, Widnes, not later than Friday, 8th June, 1951.

Canvassing directly or indirectly will disqualify.

FRANK HOWARTH, Town Clerk.

Town Hall, Widnes.
7th May, 1951. [5431

COUNTY BOROUGH OF GREAT YARMOUTH.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the appointment of CLERK OF WORKS to act under the direction of the Borough Engineer in the supervision of the erection of six-storey flats.

Applicants should have a thorough knowledge of the building trade, the erection of multi-storeyed flats, of steel-frame building and pile foundations. Membership of the Incorporated Clerk of Works Association of Great Britain would be an advantage. The salary will be £12 per week. Housing accommodation will be provided if required.

Applications, stating age, qualifications and previous experience, together with the names of three persons to whom reference may be made, should be enclosed in an envelope, endorsed "Clerk of Works," and must be received by me not later than Friday, 25th May, 1951.

Candidates must disclose in writing whether they are related to any member or officer of the Council. Canvassing, either directly or indirectly will disqualify.

FARRA CONWAY, Town Clerk.

Town Hall, Great Yarmouth.
3rd May, 1951. [5428

NORFOLK COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited from Registered Architects for the appointment of a SENIOR ASSISTANT ARCHITECT, Grade VI (£595-£560 per annum).

Applications are also invited for the appointment of an ASSISTANT ARCHITECT, Grade V (£520-£570).

The above salaries do not include the increases recently recommended by the National Joint Council, which have not yet been considered by the County Council.

Applications, stating age, qualifications, present appointment and salary, full details of experience and giving the name of three persons to whom reference may be made, should be sent to the County Architect, 27 Thorpe Road, Norwich, by not later than Monday, 28th May, 1951.

The appointments are on the permanent staff and are subject to National Conditions of Service.

N. OSWALD BROWN, Clerk of the Council,
County Offices, Thorpe Road, Norwich. [5423

LONDON ELECTRICITY BOARD.

NORTH EASTERN SUB-AREA.

APPLICATIONS are invited for the following positions:

ENGINEERING DRAUGHTSMAN (Ref: V.1231/AA) at Stratford, E.15. Candidates should possess a wide experience in the design and modification of substations and other buildings, and ability to work on own initiative and deal with Architects and Surveyors. Salary from £500 per annum inclusive.

DRAUGTSMAN (Ref: V.1230/AA) at South Woodford, E.18. Applicants should be at least 21 years of age and have had a good general education and Drawing Office experience, preferably on Mains Records. Salary within range £300/£500 per annum inclusive.

The salaries are provisional, pending grading of the posts under the National agreement of the appropriate negotiating body, and the commencing salaries will be determined according to qualifications and experience.

Application forms obtainable from Establishments Officer, 46 New Broad Street, E.C.2., to be returned duly completed within 10 days, quoting clearly the reference number of the vacancy for which application is made. Please enclose addressed foolscap envelope and quote relevant reference on all correspondence. [5432

UNIVERSITY COLLEGE, IBADAN.

THE University College, Ibadan, Nigeria, invites applications for the post of MAINTENANCE OFFICER, on salary of £950 a year. Applications should reach the Registrar, University College, Ibadan, Nigeria, not later than 30th June, 1951, or the London Representative, University College, Ibadan, 1 Gordon Square, London, W.C.1, not later than 15th June, 1951.—Further details may be obtained on application to either of the above. [5443

CORPORATION OF LONDON.

APPOINTMENT OF ARCHITECTURAL ASSISTANT—AUXILIARY STAFF.

APPLICATIONS are invited for the appointment of an ASSISTANT within the range of the General Grade, maximum salary £540 at age 30 years, commencing salary related to age by scale, minimum age 23 years. Applicants should have had good office experience and have passed or be preparing for Intermediate R.I.B.A. or R.I.C.S. Examination.

The appointed officer will require to pass a medical examination and to contribute to the Corporation's Superannuation Fund as maintained under the City of London (Various Powers) Acts, 1931 and 1950.

Applications, giving full personal details, particulars of qualifications, experience, age, past and present appointments and the names of two persons to whom reference may be made should be sent to the City Surveyor, Corporation of London, 55/61 Moorgate, London, E.C.2, not later than Monday, the 4th June, 1951. [5444

NORTH WESTERN GAS BOARD.

LIVERPOOL GROUP.

ASSISTANT INDUSTRIAL ENGINEERS.

JUNIOR Draughtsmen, Engineers or Chemists possessing the Ordinary or Higher National Certificate in Mechanical Engineering or equivalent qualifications are invited to apply for positions with the Board as Assistants in the Industrial Gas Sales Department. This department is responsible for the development of the use of town's gas in industry and for central heating, steam raising and other processes.

Some experience in heat process calculations would be an advantage but training and guidance would be given.

The work is primarily of a technical nature and is of wide scope and interest due to the increasing demand for fuel technologists both inside and outside the industry.

The salary will be dependent upon qualifications and experience and will be within the range of £450/£530 per annum.

The successful applicants may be required to pass a medical examination and to subscribe to such scheme of superannuation as the Board may adopt.

Applications, appropriately endorsed, giving personal details and particulars of training, qualifications and experience, together with the names of two referees, should be addressed to the Chief Personnel Officer, North Western Gas Board (Liverpool Group), Radiant House, Bold Street, Liverpool, 1, within 14 days of the publication of this advertisement. [5440

LONDON COUNTY COUNCIL.

QUANTITY SURVEYORS' ASSISTANTS required in Housing and Valuation Department for work in connection with development of cottage estates at salaries up to £700 (basic) for senior appointment, and up to £580 (basic) for junior positions, according to qualifications and experience. Salaries quoted are at present subject to an addition of 10 per cent. on first £600 and 7½ per cent. on part of salary in excess thereof.

Duties include measurement of work in construction of houses, roads and sewers, preparation of interim valuations, measurement and adjustment of sub-contracts, small estimates, measurement of variations.

Forms of application from Director of Housing and Valuer, County Hall, S.E.1. Stamped addressed envelope required. Quote QS/36 (639). [5448

LONDON COUNTY COUNCIL.

APPLICATIONS are invited for positions of ARCHITECTURAL ASSISTANT (salaries up to £580 basic a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Acts, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

All rates of pay up to £600 a year (basic) are at present subject to an addition of ten per cent.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes (cottages and multi-storey flats) and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816). 10108

CAMBORNE-REDRUTH URBAN DISTRICT COUNCIL.

APPOINTMENT OF QUANTITY SURVEYOR.

APPLICATIONS are invited for the appointment of QUANTITY SURVEYOR (Housing) in the Engineer and Surveyor's Department at a salary in accordance with A.P.T. Grade V of the National Scale of Salaries (£570-£620 per annum).

Applicants should have had suitable experience in the preparation of bills of quantities, measuring and valuation for interim certificates, and final accounts for work in connection with large housing schemes.

The appointment is subject to:—

(a) The National Scheme of Conditions of Service.

(b) The Local Government Superannuation Act, 1937; and the passing of a medical examination.

(c) One month's notice in writing on either side.

The appointment is however, subject to the omission of the clause in the National Conditions of Service as to payment of subsistence for duties within the urban district.

Applications, endorsed "Quantity Surveyor," stating age, qualifications and experience, together with the names and addresses of two persons to whom reference can be made, should be forwarded to reach the undersigned not later than Saturday, the 26th May, 1951.

Housing accommodation will be made available, if required.

Candidates must state whether to their knowledge they are related to any member or senior officer of the Council.

Canvassing, directly or indirectly, will be a disqualification.

S. C. WILSON, Clerk to the Council.

Council Offices, Camborne, Cornwall.
12th May, 1951 [5449

LANCASHIRE COUNTY COUNCIL.

DEPUTY COUNTY ARCHITECT.

APPLICATIONS are invited from Fellows or Associates of the R.I.B.A. for the appointment of DEPUTY COUNTY ARCHITECT at a salary of £1,700-£75-£2,000.

The establishment of the Department is a large one and, in addition to high architectural ability, first class administrative capacity will be necessary. The appointment will be terminable by three months' notice.

Application forms obtainable from G. Noel Hill, F.R.I.B.A., M.T.P.I., County Architect, County Hall, Preston, must be returned not later than 9th June, 1951. [5436

CITY AND COUNTY OF BRISTOL.

CITY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the following permanent staff appointments:—

(a) SENIOR ASSISTANT ARCHITECT, Grade VII (£685 x 25 - £760).

(b) ASSISTANT ARCHITECT, Grade III (£500 x 15 - £545).

(c) ASSISTANT ARCHITECTS, Grade II (£470 x 15 - £515).

(d) ASSISTANT ARCHITECT, Grade I (£440 x 15 - £485).

Applicants for (a) must be Associate Members of the Royal Institute of British Architects or hold equivalent qualifications and have good general experience in design and construction, particularly in large educational projects.

The appointments are subject to the provisions of the Local Government Superannuation Acts 1937 and 1939, and successful applicants required to pass medical examination. The appointment is terminable by one month's notice in writing on either side.

Housing accommodation provided, if necessary, at an economic rent.

Applications, indicating specific appointment applied for, stating age, training, qualifications, experience, present appointment and salary and the names of two referees, must be delivered to the undersigned by Saturday, 26th May, 1951.

J. NELSON MEREDITH, F.R.I.B.A.,
City Architect.

Eagle House, Colston Avenue Bristol, 1.
11th May, 1951. [5446

CITY AND COUNTY OF NEWCASTLE UPON TYNE.

CITY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the undermentioned appointments in two newly-formed subsections of the City Architect's Department, under the control of the Chief Assistant Architect in charge of Housing, to deal with:—

A. The immediate implementation of a large programme of normal housing;

B. The development of a New Neighbourhood Unit comprising some 3,000-3,500 multi-storey flats and, in addition, extensive central area flat development.

A. NORMAL HOUSING—

TWO SENIOR ASSISTANT ARCHITECTS, A.P.T. VII (£635-£710).

ONE SENIOR ASSISTANT ARCHITECT, A.P.T. VI (£595-£660).

ONE SENIOR ASSISTANT ARCHITECT, A.P.T. V (£520-£570).

ONE ASSISTANT ARCHITECT, A.P.T. IV (£480-£525).

ONE ASSISTANT ARCHITECT, A.P.T. III (£450-£495).

B. MULTI-STOREY FLATS—

ONE PRINCIPAL ASSISTANT ARCHITECT, A.P.T. IX (£750-£900).

ONE SENIOR ASSISTANT ARCHITECT, A.P.T. VIII (£685-£760).

ONE SENIOR ASSISTANT ARCHITECT A.P.T. VII (£635-£710).

TWO SENIOR ASSISTANT ARCHITECTS, A.P.T. VI (£595-£660).

ONE ASSISTANT ARCHITECT, A.P.T. III (£450-£495).

Applicants for appointments in Grades V to IX should be Associates, R.I.B.A., and training at a recognised School of Architecture will be considered an advantage. Applicants for appointments in Grades III and IV should at least have passed the Intermediate R.I.B.A. Examination.

All applicants should possess a contemporary outlook and considerable aptitude in matters of architectural design, together with a vigorous approach to problems of construction. Previous experience of housing and/or flat schemes is desirable for all senior appointments and essential for the post of Principal Assistant Architect. A.P.T. IX (multi-storey flats).

The appointments will be subject to the National Conditions of Service as adopted by the City Council, to the provision of the Local Government Superannuation Act, 1937, and to one month's notice on either side. The successful candidates will be required to pass a medical examination.

Applications, stating position applied for, age, particulars of training, qualifications, experience, present and past appointments together with copies of two recent testimonials and the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18 Cloth Market, Newcastle upon Tyne 1, not later than 7th June, 1951.

JOHN ATKINSON, Town Clerk.

Town Hall, Newcastle upon Tyne 1.
11th May, 1951. [5447

NORTH WESTERN GAS BOARD.

LIVERPOOL GROUP.

A VACANCY exists for a DRAUGHTSMAN in the Industrial Gas Sales Department of the Group and applications are invited from suitably qualified persons.

The salary will be dependent upon qualifications and experience and will be within the range of £450/£530 per annum.

The following experience will be an advantage:—
Design of Industrial Gas Appliances and layout of installation work.
Furnace Construction.
Heating and Ventilating Engineering experience.

The successful applicant may be required to pass a medical examination and to subscribe to such scheme of superannuation as the Board may adopt.

Applications, appropriately endorsed, giving personal details and particulars of training, qualifications and experience, together with the names of two referees, should be addressed to the Chief Personnel Officer, North Western Gas Board (Liverpool Group), Radiant House, Bold Street, Liverpool, 1, within 14 days of the publication of this advertisement. [5441

EAST KILBRIDE DEVELOPMENT CORPORATION.

ASSISTANT EXECUTIVE IN THE ARCHITECTURAL DEPARTMENT.

THE Corporation invite applications for the post of ASSISTANT EXECUTIVE in the Architectural Department. Candidates must have had substantial experience in the control and organisation of large scale building works carried out by contract and in the running of a large architectural office. It is desirable but not essential that applicants should be qualified Architects. The salary scale is £1,250 x £50 to £1,500 per annum, with placing according to experience, etc. The appointment is subject to the Corporation's Conditions of Service and Superannuation Agreement. The selected candidate will be required to pass a medical examination. A house will be made available if required. Application forms may be obtained from the General Manager, Torrance House, East Kilbride, to whom they should be returned not later than 9th June, 1951.

Canvassing, directly or indirectly, of the members of the Corporation will constitute an absolute disqualification. [5435

CONTRACTS

COUNTY BOROUGH OF SWANSEA.

PROPOSED NEW FIRE STATION.

SITE PREPARATION AND CONSTRUCTION.

TENDERS are invited from experienced Contractors for the work of preparing the site and constructing a retaining wall in connection with the project for building a new Fire Station at "The Laurels" Mount Pleasant.

The site preparation work comprises demolition of several buildings, sheds and disused brick and masonry walls, as well as general excavation, varying in depth from zero to a maximum of 22ft. approximately.

The retaining wall, which will enclose the site on three sides, is to be in reinforced concrete and will have a total length of 154 yards approximately. The wall varies in height from 6ft. minimum to 34ft. maximum; the major part of the wall is of the counterfort type, but at the extremities, where the lower heights occur, the cantilever type is adopted.

Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained and Drawings inspected at the Office of Mr. Robert Hudson, A.M.I.C.E., Borough Engineer and Surveyor, The Guildhall, Swansea, on depositing the sum of £5 (Five Pounds). This deposit will be refunded on the receipt of a bona-fide tender which is not subsequently withdrawn.

Tenders, on the prescribed Form of Tender, in sealed envelopes bearing no name or mark indicating the sender, and endorsed "Site Preparation for Fire Station," must be delivered to the undersigned not later than Wednesday, 6th June, 1951.

The Council do not bind themselves to accept the lowest or any tender.

T. B. BOWEN, Town Clerk.

The Guildhall, Swansea.
20th April, 1951. [5437

ARCHITECTURAL APPOINTMENTS VACANT

IMPERIAL Chemical Industries Limited, General Chemicals Division require one or two Assistant Architects in the Architectural Section of their Chief Engineer's Department, Runcorn. Applicants should have had good experience in the design and preparation of working drawings. Other factors being equal, preference will be given to those who have passed the Final examination of the R.I.B.A. Salary dependent on age and experience. Membership of Pension Fund.—Apply in writing, quoting E/63, to Staff Manager, Imperial Chemical Industries Limited, General Chemicals Division Cunard Building, Liverpool, 3. [5438

OVERSEAS APPOINTMENTS as follows now have to be filled:—

Uganda, to fly out at early date ASSISTANT, minimum two years' experience, under 33. Salary £840 p.a. Ref. OSS.31/1.

Kenya, Intermediate standard or above, ASSISTANT, aged about 30, required fly out early date. Salary according qualifications and experience. Ref. OSS.14/3.

Canada, to fly out at early date, experienced ASSISTANT, preference single man or one prepared precede family. Age 30-40. Salary $3,600 p.a. Ref. OSS.24/1.

Southern Rhodesia, qualified experienced ARCHITECT, salary £720 upwards; 2 experienced DRAUGHTSMEN, salary £400 upwards, all according experience. Refs. OSS.23/1 and OSS.23/2.

For further particulars write immediately quoting appropriate reference number.

Regular information about conditions cost of living, etc., abroad, is contained each fortnight in "Overseas Appointments," subscription six shillings half-yearly. Also details every overseas post advertised for architects, surveyors and contractors' staff.

Apply in each case to Overseas Architects Service, 5 Welldon Crescent, Harrow. [5450

SITUATIONS VACANT

BRITISH Overseas Airways Corporation invite applications for the position of Technical Assistant (temporary) to be situated in London. The duties involve assisting the Civil Engineer with the statement and co-ordination of planning by means of drawings, reports and analyses in connection with planning of permanent buildings at London Airport for B.O.A.C. Applicants should be good and rapid Architectural Draughtsmen with good experience and grasp of the engineering side of electric lighting and power, heating and sanitary services for large buildings. A capacity for tabulation and comparative economic statements will be most desirable and the work will include the recording of meetings dealing with technical matters affecting the internal arrangement of buildings. The appointment is unlikely to exceed 18 months or two years. Salary £545 to £695 p.a. according to qualifications and experience.—Applications in writing to Chief Personnel Officer, B.O.A.C. Airways House, Great West Road, Brentford, Middlesex. [5442

REQUIRED by Reinforced Concrete Company, Sales Assistant to operate in South Wales and West of England (based on Bristol). Salary offered, £400-£500 per annum, according to qualifications.—Applicants must have sound knowledge of general reinforced concrete application to industry.—Write, giving full details, to Box B.869, at 191 Gresham House, E.C.2. [5419

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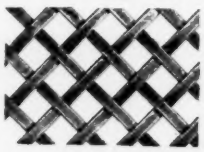

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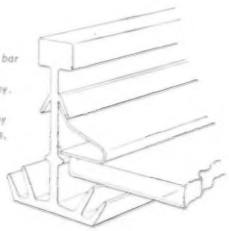
PROFILE: the Aluminex Patent Glazing Bar and its applications

If it is true that the function of a patent glazing system is "to hold glass permanently in place, in any plane, over any given area by the simplest possible means", then it is by this exacting standard that the Aluminex patent glazing system should be judged.

The examination may most conveniently begin with the profile of the Aluminex aluminium alloy glazing bar. It is a shape completely determined by its function. Nothing about it is by intention ornamental nor is any part of it attributable to an afterthought. It is, in other words, good functional design and by virtue of that, has a pleasing appearance. It consists of a main web with a strengthening ridge at the top holding a necessary weight of metal in balance. From the "spine" emerge ribs on each side to hold the continuous glazing cover strip, ribs to serve as anti-capilliary stops for the glass and supporting flanges to receive the weight of the glass. There are further flanges to form drainage and condensation channels.



This Aluminex patent glazing bar is of extruded aluminium alloy. The glass is held in place by the cover strips, one of which is seen here in position.

The role of the glazing cover strip

Complementary to the glazing bar is the glazing cover strip. This is a continuous strip of aluminium alloy rolled into a springy wedge shape which is compressed and pushed into place between the upper rib on the glazing bar and the surface of the glass. It holds the glass without aid from putty, screws, cord seatings or flashings. It fits tightly but "gives" in response to thermal movement sufficiently to make a firm and safe grip for the glass in all conditions.

The glazing bar and cover strip, as well as all the minor fittings are made of an alloy of aluminium, silicon and magnesium in which the proportion of silicon and magnesium is specially determined in order to obtain the maximum resistance to corrosion. (It has been found that the composition of an aluminium alloy is the major factor in the control of corrosion, anodizing and the other surfacing processes being of secondary importance.)

In the case of this alloy the weathering process rapidly produces an extremely hard patina on the surface which thereafter remains static and protects the metal.

The glazing cover strip is a continuous springy strip of aluminium alloy rolled to this shape.

These two basic components of the Aluminex glazing system — the glazing bar and the cover strip — have been designed to fulfil the requirement of the definition, that glazing should be done "by the simplest possible means". As for the other requirements, it has been shown that to ensure security in any plane we have a firm glass holding device and for permanence a corrosion-resistant alloy.

Aluminex — a method of construction

But examination of many of the applications of the Aluminex patent glazing system suggests a larger claim. Aluminex in fact has been used not merely as a glazing system but as a method of construction in its own right.

It is difficult, for instance, to think of the glazed stretch 1,052 ft. x 50 ft. on the northern side of the Brabazon hangar at Filton as a window (even as the "biggest composite plate glass window in the world", as it has been called.) It is more properly, a "glass wall", and the Aluminex glazing is an integral part of the structure of the building.

An extension of this idea, although on a much smaller scale, is to be seen in the I.C.I. Experimental building at Witton. Here, as part of the general intention to test the application of non-ferrous metals in various fields, the South West wall is entirely built on a skeleton of Aluminex casement sections. The spaces between the bars are in some cases not glazed but fitted with a variety of solid panels. This construction can best be described as a "grid wall" of a new type, yet it is in fact only an application of the *Aluminex method of construction.*

The possibilities of double glazing

By means of modified types of the glazing bar, the Aluminex system provides double glazing which gives a high degree of insulation and freedom from internal condensation. The problems of providing light cladding to suitable buildings can therefore, it is clear, be approached with this system of construction in mind.

In fact, in the hands of an architect of imagination, this young, yet accepted, method of construction has exciting possibilities. This is particularly so in the treatment of industrial and similar buildings where the maximum of light is required. The company may be relied upon for enthusiastic co-operation in all such developments and invites communications from all architects who might like to discuss ideas and projects in this field.

Aluminex Division *of Williams & Williams Limited, Reliance Works, Chester. Telephone: Chester 24624 (10 lines). Telegrams: Reliance, Chester.*

The Experimental building of the I.C.I. Metals Division at Witton. The wall grid seen here holds both solid and glazed panels.

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